Appendices

Maine GeoLibrary Board
2008 Strategic Plan Update

Appendices

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Appendix A – 2002 Strategic Plan
Five Pillar Update

The Maine 2002 GIS Strategic Plan listed five major initiative areas. These are referred to in the plan as the "Five Pillars." As part of this strategic plan update, the details on each pillar were reviewed with the Project Team and the current statuses as well as any significant comments provided in each area were captured. This information was then incorporated into the "Overall Issues & Action Items" in Appendix D.

Maine 2002 Strategic Plan Five Pillar Update

Pillars	Current Status	Comments
Pillar #1: Development of Detailed Data Standards		
Parcel	Completed.	Adopted by the GeoLibrary Board.
Open Space	Not done.	
Land Use	Not done.	
Land Cover	Completed.	Completed - Modified NOAA C-CAP USGS NLCD standard adopted by the Remote Sensing Subcommittee of the GIS Exec. Council prior to the Board.
Roads	Not done.	
Addressing	Completed.	Completed - NENA addressing standard adopted by E911 program; Feature Level Metadata (FLM) implemented.
GPS (for addressing)	Completed.	Completed - specifications provided in vendor contract for E911 related GPS work.
Hydrography	Completed.	Completed - NHD standard adopted by GIS EC prior to GeoLibrary Board; hydrography subcommittee; FLM implemented
Archiving GIS Data	Completed.	Completed - standard procedure for archiving vector geospatial data adopted by Secretary of State.
Feature Metadata	Completed.	

Pillars	Current Status	Comments
Pillar #2: Data Warehousing Infrastructure Improvements		
Adding a new staff position for addressing increased technology infrastructure improvements as well as the increased volume of data transaction.	MEGIS is developing infrastructure to support state users and internet users. MEGIS is not in a position to implement infrastructure for public use.	MEGIS is lending staff for a portion of this work.
Planning and consideration of whether the ArcSDE™ data warehouse environment should be supplemented by an RDBMS server such as Oracle Spatial.	Complete.	
Optimizing the configuration of the ArcSDE™ environment.	Complete.	
1. Load all MeGIS data sets into the data warehousing environment. Store them seamlessly and in a uniform coordinate/projection system. 2. MeGIS must actively work with other state departmental initiatives to ensure that all the best departmental data is collected and stored in the GeoLibrary.	1. Done, but access is limited to state agencies except for data exposed through web services. 2. MEGIS encourages state agencies to load their data into SDE and put it on the data catalogue through meetings and e-mails. MEGIS is not in a position to "mandate" this action.	This could be resolved by working with the CIO to develop a policy to insure data updates on a minimum of an annual basis for datasets that are updated regularly by state agencies
MeGIS staff and the GeoLibrary Board must work on a set of policies and procedures for updating data within the data warehouse including: 1. Assignment of responsible parties; 2. Agreement on appropriate timetables for data update cycles; 3. Determination of appropriate technologies; and 4. Establishment of data standard validation routines.	1. Done for MEGIS managed data, however, this is not done for several agencies who manage their own data in the warehouse. 2. Not done. 3. Complete for MEGIS only. 4. Complete for MEGIS only.	
Evaluate the application delivery infrastructure: 1. Point applications at the new data warehouse as a fundamental data source; 2. Evaluate existing application architecture to determine opportunities for improvements; 3. Develop a generic web services; and 4. Design/optimize new applications for stability and good performance in light of potential increased activity.	Done.	

Pillars	Current Status	Comments
Development of a complete database design for the data warehouse environment.	Complete.	
Evaluate the application delivery infrastructure: 1. Point applications at the new data warehouse as a fundamental data source; 2. Evaluate existing application architecture to determine opportunities for improvements; 3. Develop a generic web services; and 4. Design/optimize new applications for stability and good performance in light of potential increased activity.	Done.	
Evaluate the overall networking environment between state agencies, and between the state and the Internet to ensure adequate capacity for the intended services.	Done.	
Optimize licensing with the large software vendors. Move toward a Citrix® distribution from a MeGIS central node.	MEGIS is rolling out both a new enterprise ESRI license agreement and a new Citrix environment, for state agencies only.	
Pillar #3: Additional Investment in Statewide Data Development		
Creation of detailed statewide orthophoto base map through continued participation in the USGS NAPP program: 1. Completing the 1997-98 Digital Orthoimagery Quarter Quad (DOQQ) project; and 2. Undertaking a new 2003-04 National Aerial Photography Program (NAPP).	1. Complete. 2. 99% complete. The data are at MEGIS and will be put out on the web site by fall 2008.	Note that the 2007 NAIP photography is on-line (by county) from the USDA.
Parcel layer development	Initiated through two cycles of a grant program and through the initiating of the Integrated Land Records Information System project.	Implemented through a parcel grant program. 69 municipalities have developed standard compliant data. 4 municipalities will be completed in 2008.
Zoning data layer development: 1. Shore land zoning; 2. Municipal zoning.	Not done.	

Pillars	Current Status	Comments
Development of statewide land cover data.	Complete.	
Conservation land/open space data layer development: protected open space	Not complete.	M. Smith reports that between TNC, Conservation, and LURC, they have put together and are almost done with a very thorough "conservation lands" digital layer.
Road centerline enhancements.	Not done.	Multiple unsuccessful attempts were made to move this project forward.
Pillar #4: Targeted Application Development		
Standards conformity validation applications	Left to the agency that owns the data.	
Internet browser-based data viewer and an application development platform including a: 1. Map rendering service; 2. Geocoding service; and 3. Data download service.	1 & 2. Complete for state agencies; when complete, the Portal project will provide statewide web services. 3. Complete.	The data catalog provides access to state agency data. The only local data is parcel data.
Development tracking tool development suite	Not done.	A series of meetings led to the utilities publishing their grids on an annual basis.

Pillars	Current Status	Comments
Pillar #5: A Program for Expanded GIS Education, Outreach and Coordination		
Creation of an explicit coordination function within MeGIS	Not done.	The strategic plan called for a GeoLibrary Content Specialist, a GIS Outreach Coordinator, and a GeoLibrary Contract Coordinator position. None were established. A portion of this work was completed through the use of MeGIS staff when time permitted.
Creation of regional geographic service centers	Not done.	Potentially, this could be partially replaced by providing generic municipal applications through a centralized web service from the Portal.
*** Note** - The information included above was derived from information provided by the Maine Project Team, MEGIS and the 2007 Annual GeoLibrary Report.		

Appendix B – Maine GeoSpatial Stakeholder Identified Coordination Gaps

As part of the strategic planning process, Forums were held in four cities across the state. These included public forums in Auburn, Bangor and South Portland as well as a forum for State Agency personnel in Augusta. User needs were identified in each of these sessions and were distilled into areas called "Gaps." The following appendix lists each of the gaps identified and provides potential solutions to resolve them. These solutions were reviewed with the Project Team and the Board to insure their practicality. This information was then incorporated into the "Overall Issues & Action Items" in Appendix D.

Maine GeoSpatial Stakeholder Identified Coordination Gaps

(Gaps Identified by Stakeholders Through Regional Forums,
the On-Line Survey and Stakeholder Meetings)

Gaps (*See Note Below)	**Potential Solutions**	**Comments**
Data Sharing		
Inability to easily find data	1. Perform annual inventory of geospatial data across the state and post on the website. (List datasets, data custodians and their contact information.) Work with CIO to have state agencies report on data posted, not posted, under development and planned for development. Request communities and NFP's across the state to volunteer to complete data inventory. 2. Provide a continuous campaign to post data and metadata to the portal.	Refer to: http://www.nysgis.state.ny.us/gisdata/index.cfm as a potential example.
Difficulty in knowing when new data is posted or other data is updated	Work with CIO to have state agencies report on new or data updates to Board List Serve and post on web site as well. Request others around state to notify the Board as well.	This seems like a simple solution that can pay big dividends over time.
Difficulty in downloading or accessing data	Data will be available via web services through portal. Other potential solutions include reducing the file size to make them more easily downloadable by local users.	Files for imagery are too large for some users.
Need easier services for generating and understanding metadata	Using the Portal's metadata tool (requirement for data posting), it will only take 5 minutes at the most to create metadata.	Advertising the portal and making data developers aware of the ease of use of its meta data tool is vital to overcome this issue. The Board should consider providing a major campaign to make users across the state aware of this valuable resource.
Inability to easily get access to state and local data	1. Perform annual inventory of geospatial data across the state and post on the website. (List datasets, data custodians and their contact information.) Work with CIO to have state agencies report on data posted, not posted, under development and planned for development. Request communities and NFP's across the state to volunteer to complete data inventory. 2. Provide a continuous campaign to post data and metadata to the portal.	Refer to :http://www.nysgis.state.ny.us/gisdata/index.cfm as a potential example.

Gaps (*See Note Below)	**Potential Solutions**	**Comments**
Data Development		
Provide updated imagery (every 3-5 years)	Develop a program with consistent annual funding that covers a portion of the state each year. Provide coverage for the highest growth regions every 3 years. Work to take advantage of the NAIP program for the vast amount of rural areas in the state. Use USGS and NGA funding to supplement urban, coastal and high growth areas.	Determine what resolutions meet state government needs. Provide options to purchase higher resolutions by municipalities. Consider contracting for QA/QC to speed up delivery. Aim for 6-8 months turn around for completed imagery.
Provide statewide parcel data	Implement Integrated Land Records Information System.	
Develop one uniform roads (and addressing) dataset	Work with CIO, DOT and E-911 to integrate data and reduce redundancies. Establish work group to determine user needs (road centerlines versus road edges, etc.)	This has been tried previously without success.
Develop new, high resolution, statewide elevation data	Develop a program that completes a portion of the state each year and provides overall coverage of the state within 5 years.	This was a data need that was addressed in the Regional Forums, and later, specifically noted in the priority listing of vector data in the On-Line Survey.
Coordination Activities		
Data development	Provide an on-line inventory of data available, data under development and data planned for future develop. Encourage all data developers to post data development plans on the GeoLibrary Board list serve prior to starting work and encourage data development partnerships where practical.	
Application development	Provide an on-line inventory of applications under development and applications planned for future develop. Encourage all application developers to post data development plans on the GeoLibrary Board list serve prior to starting work and encourage data development partnerships where practical.	

Gaps (*See Note Below)	Potential Solutions	Comments
Data sharing	Encourage data sharing to save costs, time, and resources by making it a theme in statewide presentations.	Data sharing should be a campaign theme for the Board. In addition, the Board should measure the number of downloads occurring from its site each year and their estimated value to help to demonstrate the value of the Board.
GIS Project Partnerships	Encourage partnerships to save costs, time, and resources by making it a theme in statewide presentations.	Consider providing an annual award to an outstanding project with multiple partners that contributed to its success.
Training	Establish an on-line calendar of training activities around the state on the GeoLibrary website. Work with MEGUG and the university geospatial consortium to include information on professional training and curricula available in Maine colleges and universities.	
Provide access to lessons learned	Ask MEGUG to have members provide short write ups on lessons they have learned. Post these to the GeoLibrary list serve and in a "Lessons Learned" portion of the GeoLibrary website.	
Need GIS funding for local government	Examine the potential for establishing a GIS grant program for local government. Use it to encourage data and resource sharing as well as partnership projects.	
Communication		
Who is the Board? What is the Board doing? How can I find out? Why is the Board relevant to me?	Update information on the website on a regular basis. Provide monthly Board meetings each month, post the annual report, provide monthly news blip, project updates and list the latest in data updates. Speak at annual MMA, County, MEGUG, and other relevant conferences. Highlight accomplishments immediately as they occur.	This all gets back to establishing the relevancy of the Board to those within and outside the Maine geospatial community. If government, private sector and citizens aren't aware and fully able to take advantage of what the Board does, this will significantly diminish the value of its efforts.

Gaps (*See Note Below)	Potential Solutions	Comments
What is being done around state that others might take advantage of?	Refer to the above solutions on data development, data sharing, application development, education and partnerships. Provide a "What's New" section of the GeoLibrary and update it at least weekly. Use the GeoLibrary List Serve to put out "News Blips" monthly and encourage all to join the GeoLibrary List Serve.	
How can GIS users stay in touch w/GIS issues, activities & opportunities	Actively encourage members of MEGUG, MMA, state government, etc. to join the GeoLibrary List Serve and post activities there. Provide a "Calendar of Events" on the GeoLibrary website and keep it up to date.	
How is GIS being coordinated at a statewide level?	1. Review suggested solutions under coordination activities above. Implement those (where practical) along with current activities. 2. Develop campaign across the state to help others improve their GIS capabilities and lower the barriers to implementing and using geospatial technologies in Maine. Use the opportunity to highlight the GeoLibrary Boards' coordination activities, measured results and accomplishments achieved. 3. Solicit input from stakeholders across the state on an annual basis both by holding regional forums and conducting an on-line survey. 4. Make the input received part of the Board's annual planning process.	Once again this all gets back to establishing the relevancy of the Board as noted above.
How does the Board promote the use of GIS?	Establish a coordinated campaign to promote the use of GIS in state, county and local government as well as prominent private sector areas would provide the Board with some significant name recognition. Provide training to high school teachers who use GIS to teach their courses.	

Gaps (*See Note Below)	**Potential Solutions**	**Comments**
GIS Education/training		
How can I find inexpensive GIS training?	Work with MEGUG and establish an education work group and work with the university consortium and the ESRI certified trainers to post a calendar of training/educational opportunities. Encourage trainers to post their training on the GeoLibrary List Serve.	
Where is training being given around the state and where?	Work with MEGUG and establish an education work group and work with the university consortium and the ESRI certified trainers to post a calendar of training/educational opportunities. Encourage trainers to post their training on the GeoLibrary List Serve.	
GIS is too complicated (or costly).	1. Provide a training program to help them take advantage of Google or Virtual Earth solutions which could meet their base needs. 2. Provide a statewide web service for municipalities. Create web service templates for municipalities to use that provide simple zoning, planning, tax parcel and other applications that don't require GIS expertise.	
Who can I contact for help?	Establish an educational section on the website and provide contacts for training opportunities as well as university references. Encourage beginners and others to ask questions on the GeoLibrary List Serve.	A more expensive solution is to have a Help Desk established for the state. Refer to: http://www.gishost.com/gishelpdesk/>
How do I start a GIS program for my town?	Providing a simple "getting started" kit for municipalities would be helpful along with a statewide municipal web service (see below).	

Gaps (*See Note Below)	Potential Solutions	Comments
Software too expensive		
How can I get access to GIS software that is less expensive?	Provide a statewide web service for municipalities. Create web service templates for municipalities through the Portal to use that provide simple zoning, planning, tax parcel and other applications that don't require GIS expertise.	
How can I share software?	Highlight partnerships like Lewiston/Auburn's for sharing GIS resources. Take advantage of a state web service with basic municipal applications to cover the majority of needs. Work with the software supplier to see what avenues are available for sharing.	
Is there a better way to purchase software?	Work with municipalities to take advantage of ESRI's small government enterprise license structure. Work with the software supplier to see what avenues are available.	

*** Note** - The gaps noted above were derived from the public Forums, on-line survey, and various meetings held across the state in 2008.

Appendix C –2007 Maine GeoLibrary Priorities and Initiatives

The 2007 Annual Report of the GeoLibrary provided a listing of what was called, "Priorities and Initiatives." These have been captured in Appendix C. This information was then incorporated into the "Overall Issues & Action Items" in Appendix D.

Maine Library of Geographic Information Priorities and Initiatives

(Taken from the 2007 Annual Report to the Legislature and Joint Standing Committees on natural Resources and State and Local Government)

Details Follow		Needed Bond Funds		Available Matches		
Priority	**Project**	**FY08**	**FY09**	**FY08**	**FY09**	**NOTES**
1	Complete orthophoto project					
	Tier B	$270,000		$270,000		Federal Match
	Tier C		$330,000		$330,000	Federal Match
	begin update cycle		$250,000		$250,000	Likely Federal Match
2	Parcel Grants	$750,000	$750,000	$750,000	$750,000	Municipal Match
3	Standards, Conformity, and Upgrades Validation	$100,000	$200,000			
4	Build Statewide GIS Network	$150,000	$150,000			
5	Update Statewide Land Cover		$100,000			
6	Conservation Lands Maps	$200,000	$200,000			
7	DFIRM Production	$300,000	$430,000	$300,000	$430,000	Federal Match
8	Zoning Maps Grants	$50,000	$50,000			
9	Development Tracking	$250,000				
	SUBTOTAL	**$2,070,000**	**$2,460,000**	**$1,320,000**	**$1,760,000**	
	TOTAL		**$4,530,000**		**$3,080,000**	

Appendix D – Overall Listing of Maine GeoSpatial Issues and Action Items

As the strategic planning process proceeded, the information captured in Appendices A-C and L-Q was analyzed and compiled into this appendix. Potential solutions were developed by the Sewall Team and reviewed with the Project Team and the Board. Adjustments were made when required. Where overlaps occurred, items were combined, but their original sources noted. Time frames, priorities, costs and work areas were then added to the matrix and, again, reviewed with the Project Team and the Board and modified as necessary.

Overall Maine GeoSpatial Listing of Issues and Action Items Sorted by Work Area

Source of Issue	Issue or Action Item (*See Note 1 Below)	Potential Solutions	Time Frame (For Implementation)	Priority (See Note 2 Below)	Cost	Work Area
Forums, Meetings & On-line Survey	A limited number of folks know about the Board. Their questions are: Who is the Board? What is the Board doing? How can I find out? Why is the Board relevant to me?	1. Update information on the website on a regular basis. 2. Provide monthly Board meetings reports, post the annual report, provide monthly news blips, project updates and list the latest in data updates. 3. Speak at annual MMA, County, MEGUG, and other relevant conferences. 4. Highlight accomplishments through the GeoLibrary web site and List Serve as they occur.	**Short**	**High**	**Low**	**Communication**
Forums, Meetings & On-line Survey	How is GIS being coordinated by the Board at a statewide level?	1. Review suggested solutions under coordination activities above. Implement those (where practical) along with current activities. 2. Develop campaign across the state to help others improve their GIS capabilities and lower the barriers to implementing and using geospatial technologies in Maine. Use the opportunity to highlight the GeoLibrary Boards' coordination activities, measured results and accomplishments achieved. 3. Solicit input from stakeholders across the state on an annual basis both by holding regional forums and conducting an on-line survey. 4. Make the input received part of the Board's annual planning process.	**Medium**	**High**	**Low**	**Communication**
Forums, Meetings & On-line Survey	How can GIS users to stay in touch w/GIS issues, activities & opportunities?	1. Actively encourage members of MEGUG, MMA, state government, etc. to join the GeoLibrary List Serve and post activities there. 2. Provide a "Calendar of Events" on the GeoLibrary website and keep it up to date. 3. Provide a "What's New" section on the web site. 4. Use the GeoLibrary List Serve to put out monthly "News Blips."	**Medium**	**Medium - High**	**Low**	**Communication**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
2002 Strategic Plan Pillar # 2Forums, Meetings & On-line SurveyMeGIS must actively work with other state departmental initiatives to ensure that all the best departmental data is collected and stored in the GeoLibrary.	Inability to easily find and obtain access to state and local data. As a result, redundancies in data development are occurring. MeGIS staff and the GeoLibrary Board must work on a set of policies and procedures for updating data within the data warehouse including: Agreement on appropriate timetables for data update cycles and establishment of data standard validation routines. Data sharing is somewhat limited. How is the Board encouraging data sharing?	1. Work with CIO and the Stakeholders to establish a set of policies to have State Agencies: A. report on data posted, not posted, under development and planned for development; and B. update data in the Data Catalog and Portal at a minimum of an annual basis. 2. Actively work with local government through the CIO, MEGUG, Maine Municipal Association and the Maine County Commissioners Association to: A. develop a set of policies for collecting and storing local government data in the Portal including updating data at a minimum on an annual basis; and B. through those organizations establish a promotional campaign to insure that the best local government data is collected, stored, and updated regularly in the Portal. 3. Perform an annual inventory of geospatial data across the state and post the inventory on the website. (List datasets, data custodians and their contact information.) Request communities, not-for-profits and for-profits across the state to volunteer to complete data inventory. 4. Encourage all data developers to post data development plans on the GeoLibrary Board list serve prior to starting work and encourage data development partnerships where practical. 5. Publicize GeoLibrary Board data priorities on the web site. 6. Encourage data sharing through the use of the Portal and provide a continuous campaign to post data and metadata to the Portal.	**Short-Medium**	**High**	**Low**	**Coordination**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
Forums, Meetings & On-line Survey	How does the Board promote the use of GIS?	1. Establish a coordinated campaign to promote the use of GIS in state, county and local government as well as prominent private sector areas use it to provide the Board with some significant name recognition. 2. Provide training to high school teachers to enable them to use GIS to improve their ability to teach their courses. (Reference courses similar to ISGT's TWIST: http://www.iagt.org/twist/)	**Medium**	**High**	**Low-Medium**	**Communication/ Coordination**
Forums, Meetings & On-line Survey	Difficulty in knowing when new data is posted or other data is updated	1. Work with CIO to have State Agencies report on new or data updates to the Board List Serve. 2. Request others around state to report on new or updated data via the GeoLibrary List Serve as well. 3. Provide a summary notification to the list serve once a month noting files that been added or updated. 4. Display this information on the GeoLibrary web site as well.	**Short**	**High**	**Low**	**Coordination**
2002 Strategic Plan Pillar # 5	Create an explicit coordination function within MEGIS	Provide a staff person working directly for the GeoLibrary Board to lead the implementation of the GeoLibrary priorities, oversee the coordination of activities across the state and be a spokesperson at conferences and meetings in Maine.	**Long**	**High**	**High**	**Coordination**
Forums, Meetings & On-line Survey	What is the Board doing to encourage GIS Project Partnerships among GIS users to save time, efforts and money and improve overall results?	1. Encourage partnerships to save costs, time, and resources by making it a theme in statewide presentations and possibly consider sponsoring a partnership award program each year. 2. Where appropriate, GIS users should be encouraged to communicate current and future activities via the monthly "News Blips" or through the GeoLibrary List Serve. 3. The Board should consider brokering partnerships or participating in them, where appropriate.	**Medium**	**Medium**	**Low**	**Coordination**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
Forums, Meetings & On-line Survey	Governments are recreating the same applications repeatedly. What is the Board doing to coordinate application development?	1. Work with the CIO, Stakeholders, MEGUG, and MMA to encourage all application developers to post data development plans on the GeoLibrary Board List Serve prior to starting work and encourage data development partnerships where practical. 2. Establish an on-line inventory of geospatially related applications under development and applications planned for future development. 3. Develop an understanding of the common functionality of the most redundant local government applications and build web service templates to meet those needs.	**Medium**	**Medium**	**Low**	**Coordination**
2007 Annual Report Priorities	Build Statewide GIS Network to improve access to data across the state	Establish a grant program to develop a virtual network of OGC compliant GIS web nodes with municipalities, NGO's, etc. across the state.	**Long**	**Medium**	**High**	**Coordination**
Forums, Meetings & On-line Survey	Need GIS funding for local government	Examine the potential for establishing a GIS grant program for local government to meet specific business needs. Develop a document that defines what GIS is, but more importantly, what GIS does. Determine top uses or potential uses of GIS for local government and provide the funding to use GIS to accomplish meet those needs. Use any such program to encourage data and resource sharing as well as partnership projects.	**Long**	**Medium**	**High**	**Coordination**
2002 Strategic Plan Pillar # 4	Provide a geocoding service (other parts of this pillar have been implemented)	Create a geo-coding service with statewide access.	**Short**	**Low**	**Medium-High**	**Coordination**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
Forums, Meetings & On-line Survey	Is there a better way to purchase software?	Work with municipalities to take advantage of small government enterprise license structures that software providers may offer. Work with the software providers to see what other avenues are available.	**Long**	**Low**	**Low**	**Coordination**
2002 Strategic Plan Pillar # 2	Optimize licensing with the large software vendors.	MEGIS is rolling out both a new enterprise ESRI license agreement and a new Citrix environment, for state agencies only. Consider providing a similar service for county and municipal governments across the state as well.	**Long**	**Low**	**High**	**Coordination**
Forums, Meetings & On-line Survey 2002 Strategic Plan Pillar # 5	GIS is too complicated and too costly. How can I share software? Create regional geographic service centers	1. Provide a statewide web service for municipalities. Create web service templates for municipalities to use that provide simple zoning, planning, tax parcel and other applications that don't require GIS expertise. 2. Provide a training program to help them take advantage of Google or Virtual Earth solutions which could meet their base needs. 3. Consider providing data as KML files as well as their native formats. 4. Highlight partnerships like Lewiston/Auburn's for sharing GIS resources. 5. Work with software suppliers to see what avenues are available for sharing.	**Medium-Long**	**High**	**Medium**	**Coordination/ Training/Education**
Forums, Meetings & On-line Survey	Data developers across the state don't know how to post their data. There is nothing on the GeoLibrary web site that explains how they should do it. Need easier services for generating and understanding metadata	1. Indicate on the GeoLibrary Website how data developers across the state can post data. (Data can be posted through the Portal. Using the metadata tool (requirement for data posting) will only take 5 minutes at the most.) 2. Actively advertise and promote the Portal to the Maine GIS Community. Work with MEGUG and SMU to provide an on-line training program for creating and posting meta data to the Portal.	**Short**	**High**	**Low**	**Coordination/Data**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
Forums, Meetings & On-line Survey; 2002 Strategic Plan Pillar #'s 1 & 3	Develop one uniform roads (and addressing) dataset.	1. Work with CIO and Governor's Office and the impacted organizations to insure a smooth integration of the DOT and E-911 data. 2. Identify user needs by establishing a work group (including federal, state, county, municipal & private sector participants) (road centerlines versus road edges, etc.). 3. Establish a uniform data standard. 4. Identify areas where redundancies can be eliminated and cost savings realized. 5. Work to assist agencies in developing an integrated updating mechanism.	**Long**	**High**	**Low-Medium**	**Data**
2002 Strategic Plan Pillar # 3 & 2007 Annual GeoLibrary Board Report Priorities, Forums, Meetings & On-line Survey	There is no statewide parcel data.	Implement Integrated Land Records Information System. Initiate an annual grant program that provides funding for municipalities to create and/or update their parcel data to meet GeoLibrary Stds. Use data to "seed" the ILRIS.	**Long**	**High**	**High**	**Data**
Forums, Meetings & On-line Survey; 2007 Annual GeoLibrary Board Report Priorities	Provide updated imagery (every 3-5 years)	Develop a program with consistent annual funding that covers a portion of the state each year. Design the program to be able to take advantage for USGS and NGA funding through NSGIC's Imagery for the Nation. Provide coverage for the highest growth regions every 3 years. Work to take advantage of the NAIP program for the vast amount of rural areas in the state. Use USGS and NGA funding to supplement urban, coastal and high growth areas.	**Long**	**High**	**High**	**Data**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
2002 Strategic Plan Pillar #'s 1 & 3, 2007 GeoLibrary Board Annual Report Priorities	Develop Open Space data standards. Create a conservation land/open space data layer and determine an appropriate update cycle for higher development areas versus areas of limited development.	1. Establish a work group with significant geographical and sector dispersion to establish a standard. 2. Obtain funding for data development and updating. (Tie this funding into the development of zoning that meets the standards and include in the local government funding program.)	**Long**	**Medium**	**Medium -High**	**Data**
Forums, Meetings & On-line Survey	People across Maine have difficulty in downloading or accessing data	Data will be available via web services through the Portal. Other potential solutions include reducing the file size to make them more easily downloadable by local users.	**Medium**	**Medium**	**Medium**	**Data**
2002 Strategic Plan Pillar # 1	Develop land use data.	Establish a work group with significant geographical and sector dispersion to establish a standard. Obtain funding for data development and regular updating.	**Long**	**Medium**	**High**	**Data**
Forums, Meetings & On-line Survey	Develop new, high resolution, statewide elevation data. Determine appropriate update cycles for various portions of the state.	Develop a program that completes a portion of the state each year and provides overall coverage of the state within 5 years. Establish an update cycle program.	**Long**	**Medium**	**High**	**Data**
2007 Annual Report Priorities	Update statewide land cover data	Fund an updated land cover dataset. Establish a time frame and a funding mechanism to update the data, as appropriate on a continuing basis.	**Long**	**Medium**	**High**	**Data**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
2002 Strategic Plan Pillar # 3; 2007 Annual GeoLibrary Board Report Priorities	Zoning data layer development: 1. Shore land zoning; 2. Municipal zoning.	1. Establish a work group with significant geographical and sector dispersion to establish a standard. 2. Initiate an annual grant program that provides funding for municipalities to create or update their zoning data to meet GeoLibrary Stds. Consider making this part of the local government GIS funding program. Incorporate this data into the web service templates as it becomes available.	**Long**	**Medium**	**High**	**Data**
2007 Annual GeoLibrary Board Report Priorities; 2002 Strategic Plan Pillar # 4	Standards, Conformity, and Upgrades Validation	Develop and/or approve and fully communicate standards to users across the state through the web site, the GeoLibrary list serve, MEGUG and the state GIS Stakeholders group. Build data conformity and validation software tools. (At the state level, this is currently left to the agency that owns the data.)	**Long**	**Low**	**Medium**	**Data**
2002 Strategic Plan Pillar # 2 & 3	Adding a new staff position for addressing increased technology infrastructure improvements as well as the increased volume of data transaction. Parcel data development.	Obtain funding and add staff position to primarily concentrate of developing statewide parcel data and assisting communities and others in sharing data via the Portal.	**Long**	**Low**	**High**	**Data**
2007 Annual Report Priorities	Increase DFIRM production	Increase the state's contribution to the production of DFIRM's.	**Long**	**Low**	**High**	**Data**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
2007 Annual GeoLibrary Board Report Priorities 2002 Strategic Plan Pillar # 4	Development needs to be tracked for planners in Maine. Establish a development tracking tool suite	1. Coordinate the continual collection of development tracking data. 2. Determine if development attributes can be added to parcel or land use data to meet user needs rather than creating new dataset. 3. Provide funding for regular data updates to allow historical comparisons. 4. Determine the need and cost/benefit of develop a tool to track development across the state. If needed, obtain funding for the creation of that tool.	**Long**	**Low - Medium**	**Medium-High**	**Data**
Forums, Meetings & On-line Survey	How do I start a GIS program for my town?	Develop (or adopt) a simple "getting started" kit for municipalities along with statewide municipal web service applications for municipal governments.	**Long**	**Low**	**Low-Medium**	**Training/ Education**
Forums, Meetings & On-line Survey	Where is training being given around the state and when? How can I find inexpensive GIS training?	1. Work with MEGUG and the University consortium to establish an education work group. 2. Encourage trainers to post training/educational opportunities on the GeoLibrary List Serve. 3. Establish an Educational/training section on the GeoLibrary web site. Post links to curriculum and training opportunities on the site. Link training dates to the web site's "Calendar of Events". 4. Work with MEGUG to provide an annual Board funded training course across the state.	**Medium**	**High**	**Low-Medium**	**Training/Education**

Source of Issue	**Issue or Action Item (*See Note 1 Below)**	**Potential Solutions**	**Time Frame** (For Implementation)	**Priority** (See Note 2 Below)	**Cost**	**Work Area**
Forums, Meetings & On-line Survey	Who can I contact for help? Provide access to lessons learned.	1. Refer people to the educational section on the GeoLibrary website and where they can find contacts for training opportunities as well as university references. 2. Encourage beginners and others to ask questions on the GeoLibrary List Serve. 3. Ask MEGUG to have members provide short write ups on lessons they have learned. Post these to the GeoLibrary list serve and in a "Lessons Learned" portion of the GeoLibrary website. 4. Consider providing a help desk.	**Long**	**Low**	**Low-Medium**	**Training/Education**

Appendix E – Communications Plan

The GeoLibrary Board has asked that this strategic plan update concentrate on obtaining sustainable funding, obtaining a champion and improving its coordination, outreach and education efforts. The Sewall Team's approach to obtaining that is through:

- Providing a detailed plan using work groups to develop solutions to resolve the State's issues and increase the involvement of a number of individuals outside of the Board members.
- Significantly improving its communication across the State to educate people on the improvements provided by this process and made available to the geospatial community and others.
- Follow a focused plan to identify and cultivate champions for these important initiatives.
- Develop a process to obtain sustainable funding and use these champions to insure that is achieved.

Appendix E provides a detailed approach for the Board to take the vital step required to improve its communications across the State.

Communications Plan

As the Board agrees on the strategic path to take, it will need to fully communicate its strategy as well as its progress in achieving positive results for the citizens of Maine. This document describes a workable plan to provide improved communications for the GeoLibrary Board.

1.0 Goals

- Demonstrate how the GeoLibrary Board is making a difference in Maine.
  - Provide examples on positive (non-technical) outcomes or results coming from Board activities.
  - Show how the Board is saving money, helping to improve services or assisting citizens and businesses in Maine – publicize wins both large and small.

- Increase support for the Board's initiatives
  - Keep the geospatial and other impacted communities informed on relevant Board activities. Look for ways to excite those communities.
  - Encourage geospatial experts and impacted communities to become involved in helping the Board move forward with its initiatives.
  - Add volunteers as needed to work groups to provide additional resources.

2.0 Plan of Action

- Establish the Communications Work Group
  - Carefully select a Work Group chair (Not necessarily a Board member).
  - Identify potential work group candidates (diversified by sector and geographically).
    - Include at least 1 Board member.
    - Consider inviting certain people to be on the Work Group (or serve as advisors to the Work Group). Candidates which have been suggested include: Angus King (former governor), Evan Rickert (former Director of State Planning Office), Jim Page (CEO of James W. Sewall Company), Ed Susluvic (Mayor of Portland), Jeremy Fischer (State Representative from Aroostook County), and John Martin (State Senator and UMFK Professor).
      - Review potential candidates with chair and invite members to join.
      - Concentrate on outcomes. Establish tight, but achievable time frames to provide major deliverables.
      - Stress need for implementable results
      - Allow the chair/Work Group to develop work plan.

- Key in on the "appropriate" message
  - Identify appropriate constituencies. Consider in the public sector – public safety, emergency management, economic development, tourism, environmental protection, planning, permitting, etc. Consider environmental not-for-profits, utilities, real estate, developers, lawyers, etc.
  - Identify "hot buttons" for each constituency and provide examples of how GIS can help.
  - Develop a generic Board presentation that can be edited for presentations as required.
  - Develop a "one pager" that articulates a similar message.
  - Include "message" on the web site.

- Have Work Group identify appropriate individuals and groups to interact with to achieve Board goals. (Refer to Appendix I – Developing Champions)

- Provide continual communications output to Maine's geospatial community:

- Establish annual speaking/meeting schedule.
  - Schedule presentations at conferences:
    - Consider MMA, county commissioners, Maine Bar, surveying, developers, education, emergency managers, etc.
    - Through the presentations, encourage/promote: the use of GIS in the public and private sector to solve business problems for both; the sharing of data, applications, and business solutions using GIS; the using of the portal and posting data and metadata to it; and the GeoLibrary Board and its initiatives and how they're making a difference for Maine.
  - Schedule meetings with legislators
    - Schedule annual (or more often if necessary) meetings with key State and federal legislators. Consider:
      a. Legislative Council (meets monthly)
      b. Legislative Council Subcommittee to Administer Technology
      c. Joint Standing Committee on State and Local Government
      d. Staff of key State legislators
      e. US congressmen (or their staffs) (Tom Allen, Mike Michaud)
      f. US Senators (or their staffs) (Susan Collins, Olympia Snow)
    - Use meetings to better determine their needs and the types of assistance each can provide.
    - Demonstrate how Board is achieving positive non-technical outcomes for Maine.
  - Schedule meetings with Governor's staff
    - Schedule quarterly meetings with CIO
    - Schedule annual meetings with Governor's staff
  - Schedule appropriate Board members or Work Group participants to make presentations or attend meetings. Have alternates assigned in case of emergencies.
- Improve on-line communications channels
  - Grow List Serve
    - Convert "Stakeholders' List" to List Serve
      a. Send notification out to them. Allow them to "opt out" or "join in" to List Serve. Let them know that it is for ease of communication and to better establish a statewide geospatial communication network.
    - Convert "MEGUG Membership List" to List Serve. Cross reference with the Stakeholder's List to avoid duplication. Ask MEGUG to adopt it as the "Official" list serve of MEGUG.
      a. Send notification out to them. Allow them to "opt out" or "join in" to List Serve. Let them know that it is for ease of communication and to better establish a statewide geospatial communication network.
    - Encourage GIS staff and others at State agencies to join the List Serve.
    - Ask State agencies to use the GeoLibrary List Serve to put out important geospatial announcements to allow others around the State to be aware of activities.
  - Establish monthly "News Blips"
    - Highlight recent or upcoming events in the Maine geospatial community, GeoLibrary changes or progress on initiatives, committees and/or work groups.
    - Post News Blips to List Serve and web site.
  - Enhance web site
    - Update the front page on a weekly basis.
    - Add a "What's New" section on the front page. Add a link to the monthly news blips.
    - Add the Data Inventory to the website.

- Add a summary list of data updates to the front page of the web site each month.
    a. Designate a work group member to monitor and compile these.
- Consider allowing members of the work group who have been "vetted" by OIT to be authorized to add content remotely.
- Add a "Calendar of Events" section to the web site.
    a. Designate a work group member to monitor the GeoLibrary and other list serves to include events, training opportunities, etc.
    b. Provide an e-mail or web form for others wishing to have their events posted to use.
- Add a section to the web site indicating grant opportunities and invite others to contribute to it.
- Advertise the use of the GeoPortal from the web site.
    a. Add a link to the GeoPortal from the web site.
    b. Include a brief write up on the GeoPortal indicating its significant benefits and encouraging others to use it.
    c. Include or link to a section on the GeoPortal indicating how data developers can post data and metadata (including on-line training for it).
- Publicize Board initiatives and priorities on the web site. Update regularly.
- Add a "Maine GeoSpatial Stakeholder" section.
    a. Use section to assist members of the Maine geospatial community to communicate with one another.
    b. Send notification out to the existing Stakeholder List. Allow them to "opt out" or "join in" to List Serve. Let them know that it is for ease of communication and to better establish a statewide geospatial communication network.
    c. Identify members of the geospatial community in Maine by name, sector, and geographical region.
    d. Consider providing a "mash-up" of stakeholders.
- Add a section on "GIS Projects Scheduled or Underway" to assist in eliminating redundancies between similar projects.
    a. List projects by region, data (theme and/or region), application, etc.
    b. Encourage the geospatial community to post to their projects on this site and seek cost saving partnerships.
- Add a section on "GIS Education/Training Opportunities" to assist the geospatial community and others to be able to locate appropriate training or educational opportunities in Maine.
    a. Work with the educational community, MEGUG and GIS trainers across the State to encourage educators to post curricula and trainers to post upcoming courses on this site. Link this to the "Calendar of Events."
- Add a section on "Lessons Learned" from practitioners.
- Designate one or two volunteers to pursue content for each section noted above.
- Insure that monthly Board and annual reports are posted on the web site.
- Create blogs to assist in discussing appropriate themes. Provide links to the blogs from the web site.

- Annual Report
    - Insure that the Board's Annual report is developed in a timely manner and highlights "the results" achieved by Board accomplishments.
- Reporting to constituencies
    - Each Board member establishes a plan of how they will report to their respective constituencies (at a minimum of quarterly).

        - Copies of reports are forwarded to Communications Work Group chair to monitor progress and properly coordinate the Board's message.

- <u>Obtain input from Maine's geospatial community</u>
    - Annual Survey
        - Perform an annual on-line survey to determine the needs of Maine's geospatial community and its priorities.
        - Provide a report on the results of the survey and actions to be taken as a result. Post the report to the web site and notify the geospatial community via the List Serve.
    - Hold "listening sessions" at appropriate conferences to gain input on user and non-technical needs.
    - Consider holding separate regional forums to obtain input where possible.
    - Monitor discussions on the List Serve, blogs, etc. to determine needs and program successes and add to planning agenda where appropriate.
    - Using this information, develop an annual work plan (as opposed to the annual report, which reports on what the Board did in the past year). The annual work plan would be published at the beginning of the year and would articulate action items that the Board plans to address over the course of the year.
    - Report progress quarterly
        - Report on the progress of these priorities via the List Serve and on the web site. This will provide a communications component throughout the process and helps to firm up and provide focus to Board activities and communication throughout the year. It also gives the Board a more direct connection between what stakeholders identify as priorities and what they see getting done. Lastly, it compels the Board to communicate on a yearly basis in a more active manner than just the annual report.

Appendix F – Using Work Groups Collaboratively

The Sewall Team recommends implementing this strategic plan update through the use of collaborative working groups, a proven approach that involves experts and those impacted by the issues in developing solutions to Maine's geospatial issues. Appendix F details the steps that can be used to achieve superior results using this method. As an added benefit, the method increases the number of people involved in the Board's initiatives and, by virtue of that fact, helps to build a broader sense of ownership and improve communication on these initiatives.

Using Work Groups Collaboratively

- Getting Started

  The process starts with identifying the issues that need resolution and then combining them into logical groupings. This has been done and is provided in Appendix D. After reviewing the groupings, work groups can be decided upon and a pool of candidates developed. (Note that the number of work groups can vary by the number of issues needing resolution, the amount of experts that can be brought to participate and the Board leadership's ability to manage the process.)

- Obtaining Broader Participation

  The Board, itself, must overcome a couple of major non-geospatial hurdles, prior to moving forward. First of all, it needs to make a larger audience aware of the successes it is having and its value to the State of Maine. Second, it needs to attract additional people to assist it in moving forward with its initiatives. In order to start, it needs to work with organizations across the State to identify potential participants for the work groups.

  It is suggested that the Board work with MEGUG, MEGIS, MMA, not-for-profit organizations, utilities, and academia to come up with a list of candidates and their areas of expertise. These candidates should be divided as practicable into the various work groups. The Board should strive to distribute the membership in each work group geographically across the State and between the various sectors. If possible, it would be good to have a Board member on each work group for communication purposes (either as a regular work group member or as the Board's designated project manager (refer to Section 6 of the Strategic Plan) and to voice the Board's intent when needed.

  As part of this process, potential work group leaders should be identified. These leaders must be recognized and respected experts on the issue(s) being resolved while not being construed as "partisan." They also need to have good leadership, communication and interpersonal skills with the ability to deliver practical solutions to issues in a timely manner. Once agreement has been reached on the work group leaders, a list of initial work group deliverables and time frames should be assembled. Then, the work group leaders should be solicited by the Board and brought into the process of selecting participants for the work groups. The ultimate goal of each work group is to have equal representation on committees both in terms of public/private, state/local governments, and geography. Once the list of candidates is agreed upon, they should be solicited by the Board and the work groups should be assembled and charged with their assignments.

- Work Group Tactics

  In order to get the most out of the assembled work groups, each one should be given clear objectives for achieving practical, implementable results, with specific deliverables and aggressive time frames for delivery. Deliverables should be "chunked down" into smaller, interim steps, to insure that the immediacy of each item is not lost in overly long durations. Easier steps should be put up front to establish quick wins and to allow the work groups to experience success and build momentum. Detailed schedules for each work group should be developed with the work group leaders to insure their buy in. Work groups should be allowed to add to or modify deliverables as they see fit as long as they continue to meet the Board's overall objectives. The schedules should be developed that provide a constant stream of deliverables (preferably once or twice a month). Assignments should be made to work group members and regular follow up done by work group leaders.

- Work Group Rules

  The following are suggested as rules for the work groups:
  - Meet bi-weekly (in person or on-line).
  - Have one Board member on each work group.
  - Have bi-weekly deliverables.
  - Have work group chair report at each monthly Board meeting.
  - Provide each monthly report to the Communications Work Group to include (as appropriate) in the monthly News Blip (or some other way of communication which the Board feels is appropriate) and on the web site.

- Keys to Success

  The keys to being successful with work groups such as this are:
  - Pick your leaders and key workers carefully.
  - Establish mission and set ground rules early on, soliciting agreement, buy-in, and commitment among members of the group
  - Show results quickly and consistently.
  - Build momentum.
  - Pay constant attention to the work groups. That attention needs to be provided by the Board Leadership (and a strong work group leader), a GIS coordinator, or project/program manager. Depending on the skills of the work group leader, the work group may require facilitation and/or other assistance to come to resolution on certain issues.
  - Remember that volunteerism has its limits. Once solutions are established, implement them quickly and allow work group participants to "get in and get out."

- Suggested New Work Groups

  The Board currently has three committees. These are the Technical, Policy and Finance Committees. After reviewing the issues noted in the Appendix D, it is recommended that that the following work groups be established. They are:
  - Coordination

    This work group will be charged with data inventorying, accessibility and sharing issues; coordinating application development; etc. It is recommended that the Policy Committee work directly with the Coordination Committee to develop policies needed to implement solutions to the coordination issues.
  - Communication

    This work group will be charged with improving the flow of information across Maine's geospatial community; providing content to update web site content on a regular basis; and insuring that the Board's progress on each of the issues outlined in the strategic plan are made known across the State.
  - ILRIS

    This work group will be charged with the implementation of the Board's Integrated Land Record Information System.
  - Data

    This work group will be charged with developing necessary standards as well as defining the data needs and flows between local, county, State and federal governments. It shall also take into consideration special requirement that not-for-profits, academia and the private sector may have.
  - Education/Training

This work group is charged with establishing an area on the web site to post training opportunities and encouraging trainers to use the GeoLibrary's List Serve to post opportunities. It is also to establish links from the website to the higher education sites/curricula from across the state and work with the university consortium to help meet user training needs.

- Committees
  It is recommended that the Technical Committee be expanded to include additional members from across the State, if required, to assist in defining the application needs of local government, etc. It is also recommended that the Policy Committee work closely with the Coordination Work Group (and constituencies involved) to establish the policies that will be required for its work. Finally, it is recommended that the Finance Committee be expanded to include key figures from across the State that can assist the Board in securing additional funding for its initiatives.

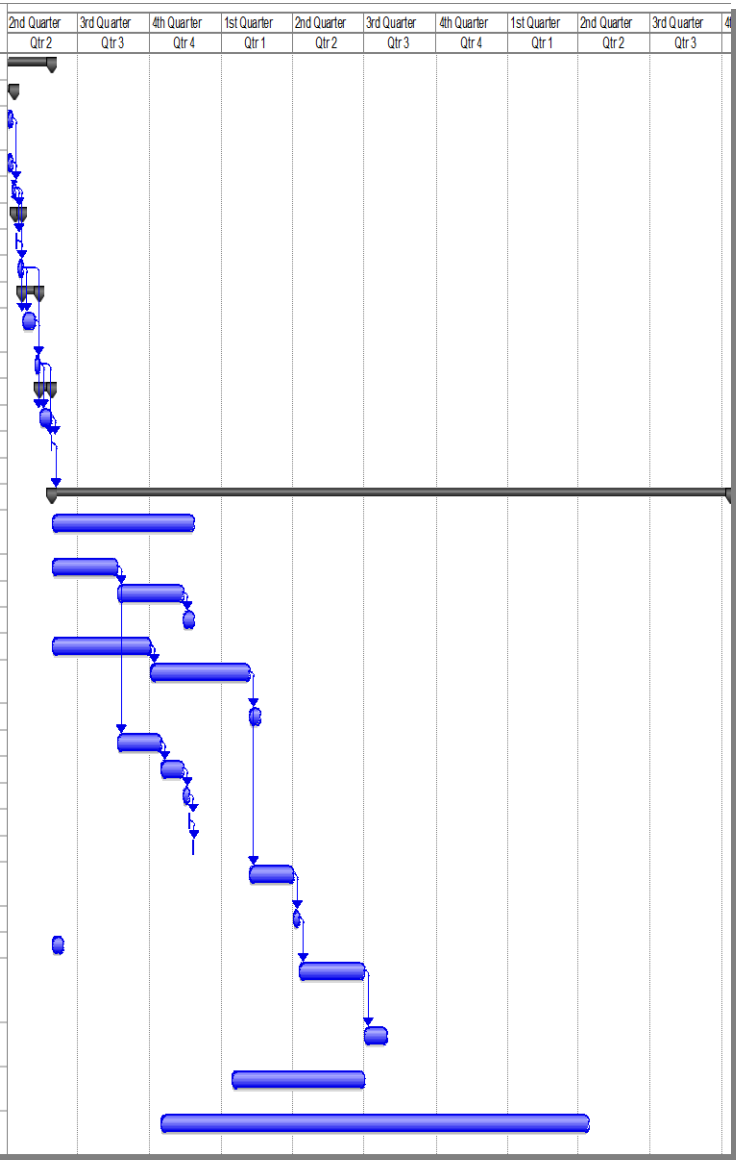
- Key Deliverables
  While each work group/committee will have a separate set of deliverables, if they can orchestrate those deliverables well with each other the following sequence might be possible:
  - Launch of the GeoPortal (Technical Committee)
  - Portal training scheduled and announced (Technical Committee and Communications Work Group)
  - Portal training program (Technical Committee)
  - Post LURC data to the Portal (Coordination Work Group and Technical Committee)
  - Announcements of data updates (Coordination and Communications Work Groups)
  - Post digital orthos to GeoPortal web service (Technical Committee)
  - Announce the posting of the digital orthos to the Portal Web Service (Communications Work Group)
  - Get trainers/educators to post opportunities to the List Serve (Education/Training Work Group) and place on the web site (Communications Work Group)
  - Establish monthly news blips featuring announcements, etc. (Communications Work Group)
  - Schedule presentations to associations, communities, and legislators to demonstrate the important progress made and the opportunities available for significant progress in the future. (Communications Work Group and Finance Committee)
  - Establish calendar of events (Communications Work Group with assistance from the other work groups and the Maine Geospatial Community)

In summary, this approach requires the Board to involve a much wider group of people across Maine in the problem solving process, including experts, those impacted by the issues at hand and recognized leaders able to work with a group to drive the production of deliverables. While it works best with a strong central leadership (i.e., a statewide GIS coordinator or a project/program manager) driving the multiple work groups, it can also work if Board leadership put the time and effort in to provide that same strong leadership and are significantly assisted by very strong work group leaders. In the end, this will enable the Board to bring together and energize the Maine geospatial community to resolve many of Maine's key geospatial issues, increase awareness of this progress and garner support by clearly demonstrating the positive impact that this technology can have for Maine.

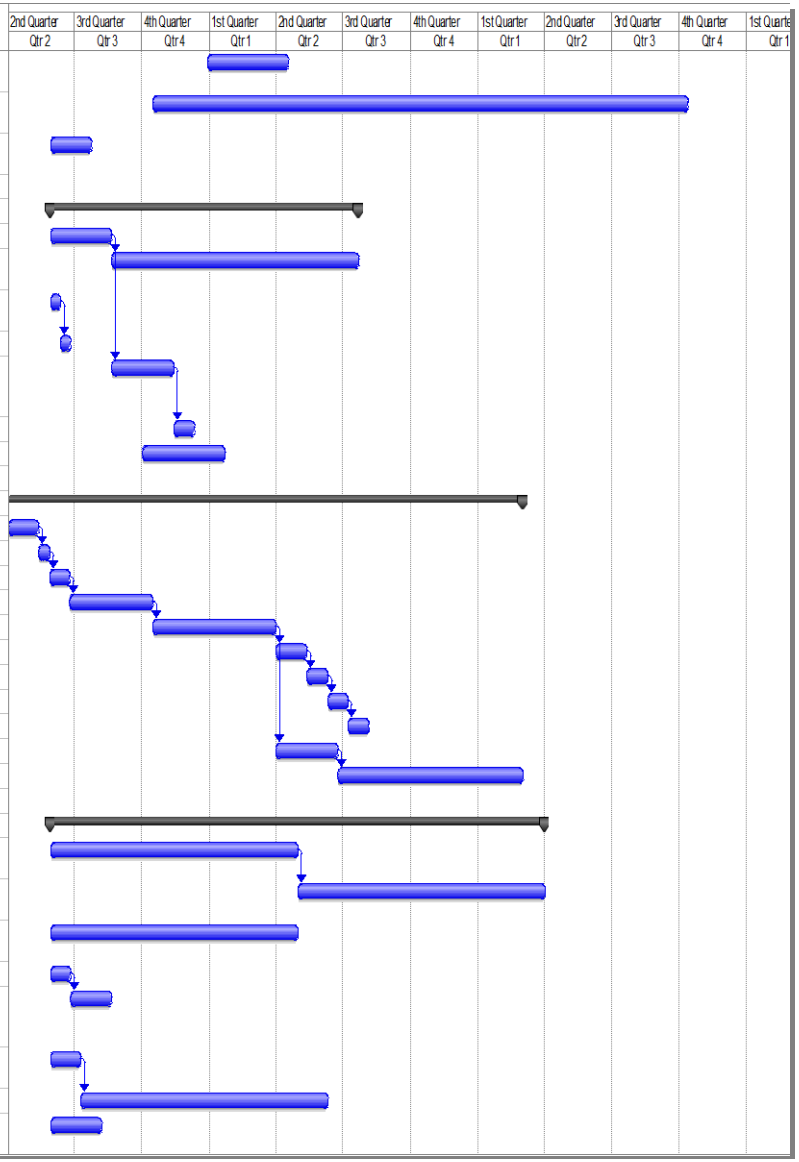
Appendix G – Project Plan

Appendix G takes the solutions, priorities, time frames, costs and work areas identified in Appendix D, and develops an overall plan for moving forward using the work group approach identified in Appendix F.

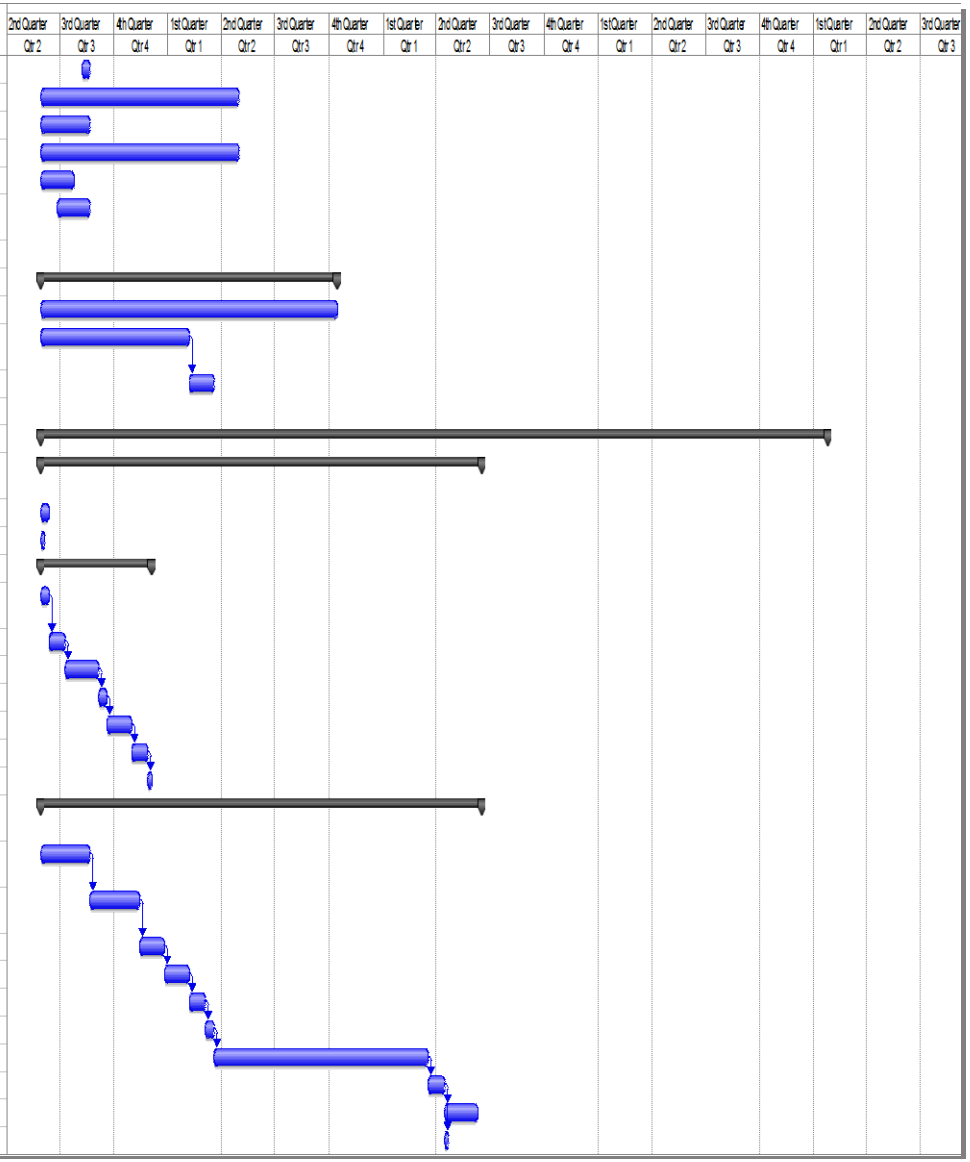
ID	Task Name	Duration	Start	Finish	Predecessors
1	**Establish Work Groups**	**41 days**	**Wed 4/1/09**	**Wed 5/27/09**	
2	**Select Work Group Chairs**	**8 days**	**Wed 4/1/09**	**Fri 4/10/09**	
3	Review stakeholder list, list serve list, recommendations by Board Members, etc. to establish list of potential chairs. Pick chairs in accordance with interpersonal skills, technical areas of expertise, ability to deliver, etc.	5 days	Wed 4/1/09	Tue 4/7/09	
4	Finalize work group missions and deliverables.	5 days	Wed 4/1/09	Tue 4/7/09	
5	Invite selected chairs.	3 days	Wed 4/8/09	Fri 4/10/09	4,3
6	**Develop Work Group Schedules**	**7 days**	**Mon 4/13/09**	**Tue 4/21/09**	**5**
7	Provide work group chairs with list of deliverables and sub projects.	2 days	Mon 4/13/09	Tue 4/14/09	5
8	Work group chairs develop schedules.	5 days	Wed 4/15/09	Tue 4/21/09	7
9	**Select Work Group Participants**	**15 days**	**Wed 4/22/09**	**Tue 5/12/09**	
10	Use similar lists as above select work group members; balance work group by sector and geography; review proposed committee participants with work group chairs.	10 days	Wed 4/22/09	Tue 5/5/09	5,8
11	Invite work group participants.	5 days	Wed 5/6/09	Tue 5/12/09	10
12	**Initiate Work Group Activities**	**11 days**	**Wed 5/13/09**	**Wed 5/27/09**	
13	Schedule initial meetings for each work group.	10 days	Wed 5/13/09	Tue 5/26/09	11,8
14	Initiate and charge work groups.	1 day	Wed 5/27/09	Wed 5/27/09	11,13
15					
16	**Coordination Work Group**	**619 days**	**Thu 5/28/09**	**Tue 10/11/11**	**14**
17	Provide a person working directly with the GeoLibrary Board to lead the implementation of the GeoLibrary priorities, oversee the coordination of activities across the state and be a spokesperson at conferences and	130 days	Thu 5/28/09	Wed 11/25/09	
18	Develop a policy for inventory of State Agencies' geospatial data	60 days	Thu 5/28/09	Wed 8/19/09	
19	Work with the CIO to perform an inventory of State Agencies' geospatial data	60 days	Thu 8/20/09	Wed 11/11/09	18
20	Post inventories on the website	10 days	Thu 11/12/09	Wed 11/25/09	19
21	Develop a discretionary policy for inventory of County and Municipal Government and other geospatial data	90 days	Thu 5/28/09	Wed 9/30/09	
22	Work with the CIO, MMA, and MEGUG to perform an inventory of County and Municipal Government and other geospatial data.	90 days	Thu 10/1/09	Wed 2/3/10	21
23	Post inventories on the website	10 days	Thu 2/4/10	Wed 2/17/10	22
24	Develop a policy for geospatial data updates; posting notices for new data;	40 days	Thu 8/20/09	Wed 10/14/09	18
25	Work with CIO to have State Agencies report on new or data updates to the Board List Serve.	20 days	Thu 10/15/09	Wed 11/11/09	24
26	Request others around state to report on new or updated data via the GeoLibrary List Serve as well.	5 days	Thu 11/12/09	Wed 11/18/09	25
27	Provide a summary notification to the list serve once a month noting files that been added or updated.	2 days	Thu 11/19/09	Fri 11/20/09	26
28	Display this information on the GeoLibrary web site.	2 days	Mon 11/23/09	Tue 11/24/09	27
29	Encourage data developers to post data development plans on the GeoLibrary List Serve as part of effort to encourage data development partnerships	40 days	Thu 2/4/10	Wed 3/31/10	22
30	Post data development plans on GeoLibrary website	5 days	Thu 4/1/10	Wed 4/7/10	29
31	Publicize GeoLibrary data priorities on the website	10 days	Thu 5/28/09	Wed 6/10/09	
32	Work with the CIO, Stakeholders, MEGUG, and MMA to encourage all application developers to post application development plans on the GeoLibrary Board List Serve prior to starting work and encourage application sharing/partnerships where practical.	60 days	Thu 4/8/10	Wed 6/30/10	30
33	Establish an on-line inventory of geospatially related applications under development and applications planned for future development.	20 days	Thu 7/1/10	Wed 7/28/10	32
34	Work with municipalities and software providers to help municipalities coordinate activities take advantage of small government enterprise license structures that software providers may offer.	120 days	Wed 1/13/10	Tue 6/29/10	
35	Establish a grant program to develop a virtual network of OGC compliant GIS web nodes with municipalities, NGO's, etc. across the state.	390 days	Wed 10/14/09	Tue 4/12/11	



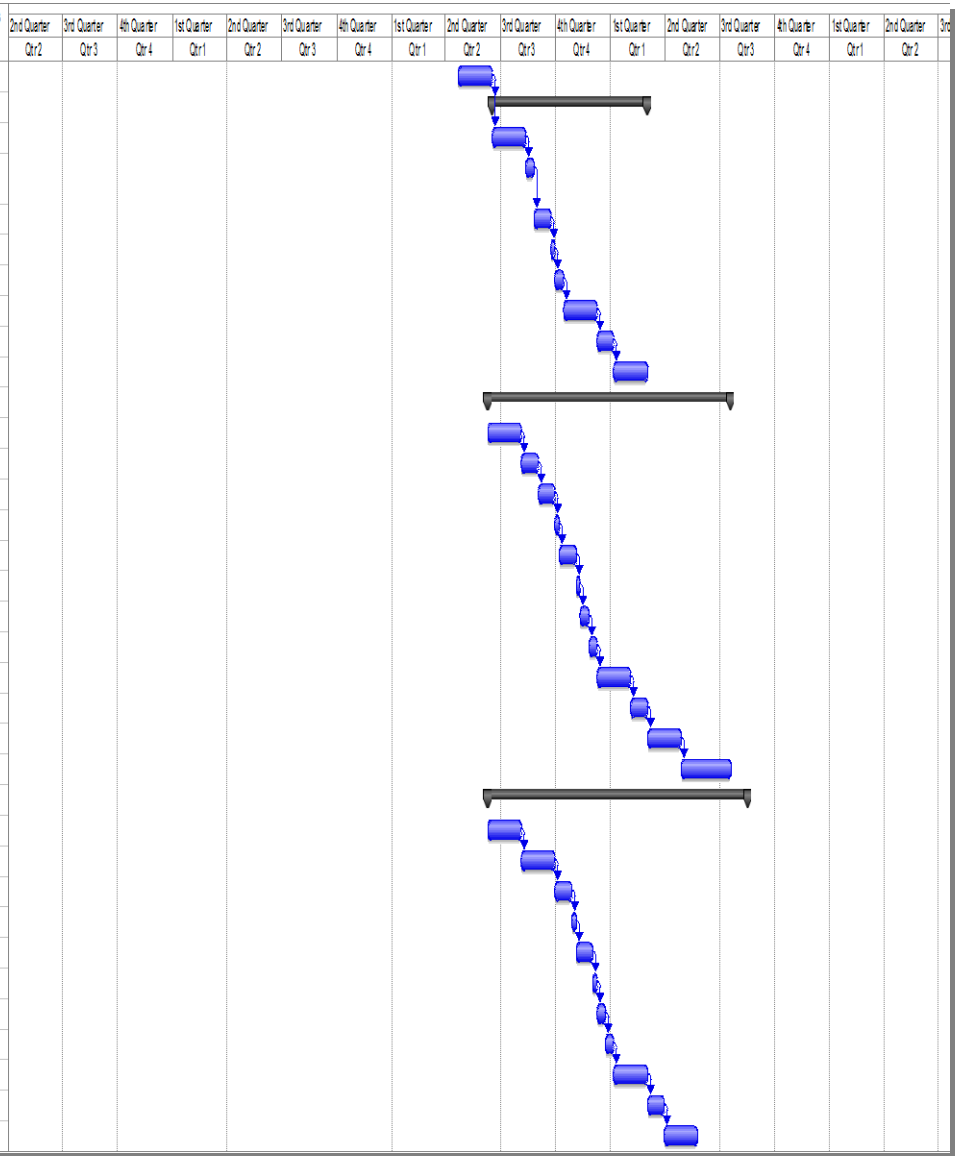
ID	Task Name	Duration	Start	Finish	Predecessors
36	Examine the potential for establishing a GIS grant program for local government to meet specific business needs and encourage data and resource sharing as well as partnership projects.	80 days	Mon 12/28/09	Fri 4/16/10	
37	Add a staff position for implementing statewide parcel development and communities and others in sharing their data via the Portal.	520 days	Wed 10/14/09	Tue 10/11/11	
38	Establish a coordinated campaign to promote the use of GIS in state, county and local government as well as prominent private sector areas (use it to provide the Board with some significant name recognition).	40 days	Thu 5/28/09	Wed 7/22/09	
39					
40	**Technology Committee**	**300 days**	**Thu 5/28/09**	**Wed 7/21/10**	
41	Complete roll out of Geo Portal	60 days	Thu 5/28/09	Wed 8/19/09	
42	Work with the Communication Work Group to encourage data sharing through the portal – develop campaign to post data and metadata to the portal	240 days	Thu 8/20/09	Wed 7/21/10	41
43	Indicate on website how data developers can post data and metadata to the Portal – link to Portal from website.	10 days	Thu 5/28/09	Wed 6/10/09	
44	Provide step by step on-line training for data and metadata posting	10 days	Thu 6/11/09	Wed 6/24/09	43
45	Develop an understanding of the common functionality of the most redundant local government applications and build web service templates to meet those needs (i.e. provide simple zoning, planning, tax parcel and other applications that don't require GIS ex	60 days	Thu 8/20/09	Wed 11/11/09	41
46	Consider providing data as KML files as well as their native formats.	20 days	Thu 11/12/09	Wed 12/9/09	45
47	Create a geo-coding service with statewide access	80 days	Thu 10/1/09	Wed 1/20/10	
48					
49	**Finance Committee**	**500 days**	**Wed 4/1/09**	**Tue 3/1/11**	
50	Identify potential champions.	30 days	Wed 4/1/09	Tue 5/12/09	
51	Determine "hot buttons/issues".	10 days	Wed 5/13/09	Tue 5/26/09	50
52	Develop a plan to recruit champions.	20 days	Wed 5/27/09	Tue 6/23/09	51
53	Execute plan.	80 days	Wed 6/24/09	Tue 10/13/09	52
54	Develop and nurture champions.	120 days	Wed 10/14/09	Tue 3/30/10	53
55	Document progress being made by the GeoLibrary and obtain user community anecdotes.	30 days	Wed 3/31/10	Tue 5/11/10	54
56	Build business case for a digital orthoimagery program for the state	20 days	Wed 5/12/10	Tue 6/8/10	55
57	Build business case for parcel development and maintenance grant program	20 days	Wed 6/9/10	Tue 7/6/10	56
58	Build justification of sustainable funding for operating and other initiatives. Develop and nurture champions.	20 days	Wed 7/7/10	Tue 8/3/10	57
59	Integrate champions into plans for obtaining sustained funding.	60 days	Wed 3/31/10	Tue 6/22/10	54
60	Work with champions to secure support for sustained funding.	180 days	Wed 6/23/10	Tue 3/1/11	59
61					
62	**Communication Work Group**	**480 days**	**Thu 5/28/09**	**Wed 3/30/11**	**14**
63	Update information on the website on a weekly basis. Seek permission for other authorized persons to add content directly	240 days	Thu 5/28/09	Wed 4/28/10	
64	Provide monthly Board meetings reports, post the annual report, provide monthly news blips, project updates and list the latest in data updates	240 days	Thu 4/29/10	Wed 3/30/11	63
65	Actively encourage the growth of the List Serve - Actively encourage members of MEGUG, MMA, state and local government, surveyors, engineers, etc. to join	240 days	Thu 5/28/09	Wed 4/28/10	
66	Develop some standard GeoLibrary Power Points Slides for Presentations & make them available via the website	20 days	Thu 5/28/09	Wed 6/24/09	
67	Develop campaign across the state to help others improve their GIS capabilities and lower the barriers to implementing and using geospatial technologies in Maine. Encourage partnerships and data sharing. (Highlight partnerships like Lewiston/Auburn's fo	40 days	Thu 6/25/09	Wed 8/19/09	66
68	Establish calendar of speaking engagements for Board members. Use the opportunity to highlight the GeoLibrary Boards' coordination activities, measured results, accomplishments achieved and various campaigns underway.	30 days	Thu 5/28/09	Wed 7/8/09	
69	Highlight Board accomplishments through the GeoLibrary website and List Serve as they occur.	240 days	Thu 7/9/09	Wed 6/9/10	68
70	Solicit input from stakeholders across the state on an annual basis both by holding regional forums and conducting an on-line survey.	50 days	Thu 5/28/09	Wed 8/5/09	



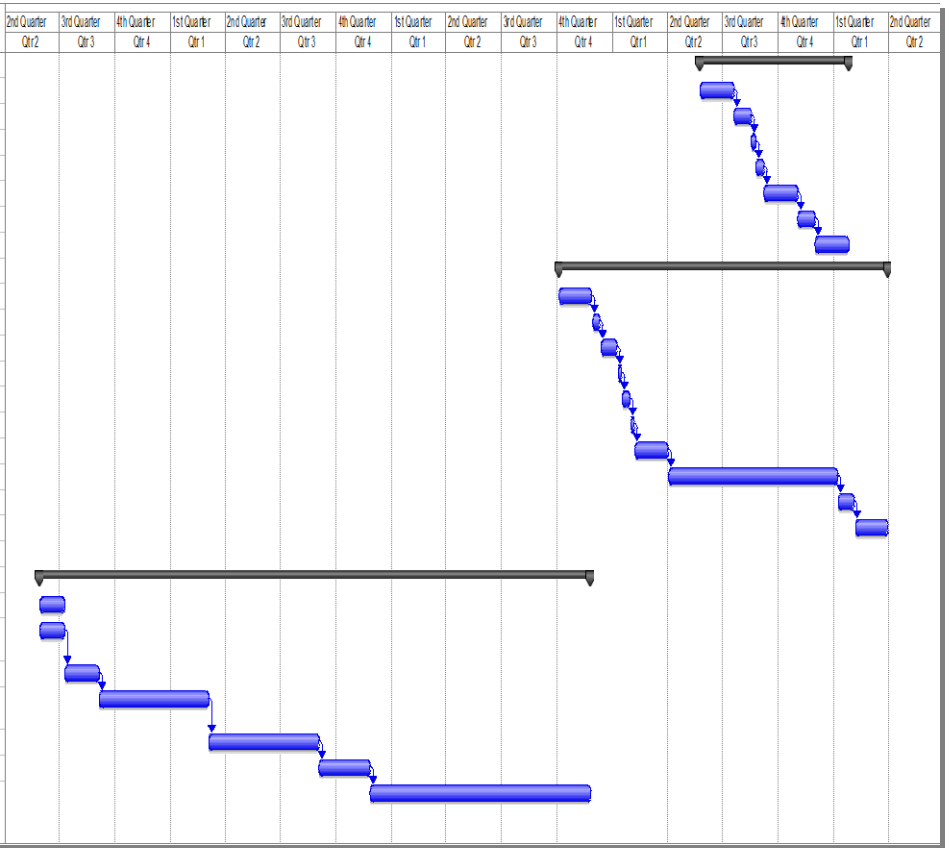
ID	Task Name	Duration	Start	Finish	Predecessors
71	Make the input received part of the Board's annual planning process.	10 days	Thu 8/6/09	Wed 8/19/09	70
72	Develop monthly "News Blips." Post them to the List Serve and on the web site.	240 days	Thu 5/28/09	Wed 4/28/10	
73	Encourage GIS users to communicate current and future activities via the List Serve or the monthly "News Blips."	60 days	Thu 5/28/09	Wed 8/19/09	
74	Provide a Calendar of Events on the GeoLibrary website and keep it up to date.	240 days	Thu 5/28/09	Wed 4/28/10	
75	Provide a What's New section on the website to highlight weekly or monthly changes.	40 days	Thu 5/28/09	Wed 7/22/09	
76	Develop a document that defines what GIS is, but more importantly what GIS does. Determine top uses or potential uses of GIS for local government and provide the funding to use GIS to accomplish meet those needs.	40 days	Thu 6/25/09	Wed 8/19/09	66
77					
78	**ILRIS Work Group**	**360 days**	**Thu 5/28/09**	**Wed 10/13/10**	**14**
79	Implement Integrated Land Records Information System	360 days	Thu 5/28/09	Wed 10/13/10	
80	Initiate an annual grant program that provides funding for municipalities to create and/or update their parcel data to meet GeoLibrary Stds.	180 days	Thu 5/28/09	Wed 2/3/10	
81	Use data to seed the ILRIS.	30 days	Thu 2/4/10	Wed 3/17/10	80
82					
83	**Data Work Group**	**955 days**	**Thu 5/28/09**	**Wed 1/23/13**	**14**
84	**Develop and/or approve and fully communicate standards to users across the state through the web site, the GeoLibrary list serve, MEGUG and the state GIS Stakeholders group.**	**535 days**	**Thu 5/28/09**	**Wed 6/15/11**	
85	Develop an announcement of all GeoLibrary standards	10 days	Thu 5/28/09	Wed 6/10/09	
86	Place announcement on the List Serve and on the web site.	5 days	Thu 5/28/09	Wed 6/3/09	
87	**Unified roads and addressing data**	**135 days**	**Thu 5/28/09**	**Wed 12/2/09**	
88	Work with CIO and Governor's Office and the impacted organizations to insure a smooth integration of the DOT and E-911 data.	10 days	Thu 5/28/09	Wed 6/10/09	
89	Identify local, state and federal government, not-for-profit and private sector user needs.	20 days	Thu 6/11/09	Wed 7/8/09	88
90	Establish a uniform data standard.	40 days	Thu 7/9/09	Wed 9/2/09	89
91	Identify areas where redundancies can be eliminated and cost savings realized.	10 days	Thu 9/3/09	Wed 9/16/09	90
92	Work to assist agencies in developing an integrated updating mechanism.	30 days	Thu 9/17/09	Wed 10/28/09	91
93	Obtain approval of data standard.	20 days	Thu 10/29/09	Wed 11/25/09	92
94	Advertise data standard via list serve and web site.	5 days	Thu 11/26/09	Wed 12/2/09	93
95	**Develop a Digital Orthoimagery program with consistent annual funding that covers a portion of the state each year.**	**535 days**	**Thu 5/28/09**	**Wed 6/15/11**	
96	Identify local, state and federal government, not-for-profit and private sector user needs. Insure that compliant products will be delivered to users in less than 12 months.	60 days	Thu 5/28/09	Wed 8/19/09	
97	Determine what state can afford to support and how much of state can be funded in a year. Develop statewide "base" program from that insuring that it meets local government accuracy requirements.	60 days	Thu 8/20/09	Wed 11/11/09	96
98	Develop options for others to "buy up" improvements in resolution, etc. from base program	30 days	Thu 11/12/09	Wed 12/23/09	97
99	Establish specifications.	30 days	Thu 12/24/09	Wed 2/3/10	98
100	Determine how QA/QC will be accomplished in a timely manner.	20 days	Thu 2/4/10	Wed 3/3/10	99
101	Develop estimate for work.	10 days	Thu 3/4/10	Wed 3/17/10	100
102	Obtain funding for base program	260 days	Thu 3/18/10	Wed 3/16/11	101
103	Develop RFP for work	20 days	Thu 3/17/11	Wed 4/13/11	102
104	Advertise, Bid and Award Contract	40 days	Thu 4/14/11	Wed 6/8/11	103
105	Offer ability for others to purchase upgraded imagery	5 days	Thu 4/14/11	Wed 4/20/11	103



ID	Task Name	Duration	Start	Finish	Predecessors
106	Obtain commitment for funding of upgrades	40 days	Thu 4/21/11	Wed 6/15/11	105
107	**Develop high resolution elevation data through a program that completes a portion of the state each year.**	**185 days**	**Thu 6/16/11**	**Wed 2/29/12**	**106**
108	Identify local, state and federal government, not-for-profit and private sector user needs.	40 days	Thu 6/16/11	Wed 8/10/11	106
109	Determine what state can afford to support and develop statewide "base" program from that insuring that it meets local government accuracy requirements.	10 days	Thu 8/11/11	Wed 8/24/11	108
110	Establish specifications.	20 days	Thu 8/25/11	Wed 9/21/11	109
111	Determine how QA/QC will be accomplished in a timely manner.	5 days	Thu 9/22/11	Wed 9/28/11	110
112	Develop estimate for work.	10 days	Thu 9/29/11	Wed 10/12/11	111
113	Obtain funding for base program	40 days	Thu 10/13/11	Wed 12/7/11	112
114	Develop RFP for work	20 days	Thu 12/8/11	Wed 1/4/12	113
115	Advertise, Bid and Award Contract	40 days	Thu 1/5/12	Wed 2/29/12	114
116	**Develop a program to update statewide land cover data.**	**290 days**	**Thu 6/9/11**	**Wed 7/18/12**	**104**
117	Identify local, state and federal government, not-for-profit and private sector user needs.	40 days	Thu 6/9/11	Wed 8/3/11	104
118	Review standard to insure it meets needs of the majority, revise if needed.	20 days	Thu 8/4/11	Wed 8/31/11	117
119	Obtain approval of data standard if revised.	20 days	Thu 9/1/11	Wed 9/28/11	118
120	Advertise data standard via list serve and web site.	5 days	Thu 9/29/11	Wed 10/5/11	119
121	Establish specifications.	20 days	Thu 10/6/11	Wed 11/2/11	120
122	Determine how QA/QC will be accomplished in a timely manner.	5 days	Thu 11/3/11	Wed 11/9/11	121
123	Develop estimate for work.	10 days	Thu 11/10/11	Wed 11/23/11	122
124	Determine estimate for regular updating as well as method for updating.	10 days	Thu 11/24/11	Wed 12/7/11	123
125	Obtain funding for base program	40 days	Thu 12/8/11	Wed 2/1/12	124
126	Develop RFP for work	20 days	Thu 2/2/12	Wed 2/29/12	125
127	Advertise, Bid and Award Contract	40 days	Thu 3/1/12	Wed 4/25/12	126
128	Obtain funding for regular updating.	60 days	Thu 4/26/12	Wed 7/18/12	127
129	**Develop land use data standards.**	**310 days**	**Thu 6/9/11**	**Wed 8/15/12**	**104**
130	Identify local, state and federal government, not-for-profit and private sector user needs.	40 days	Thu 6/9/11	Wed 8/3/11	104
131	Establish a uniform data standard.	40 days	Thu 8/4/11	Wed 9/28/11	130
132	Obtain approval of data standard.	20 days	Thu 9/29/11	Wed 10/26/11	131
133	Advertise data standard via list serve and web site.	5 days	Thu 10/27/11	Wed 11/2/11	132
134	Establish specifications.	20 days	Thu 11/3/11	Wed 11/30/11	133
135	Determine how QA/QC will be accomplished in a timely manner.	5 days	Thu 12/1/11	Wed 12/7/11	134
136	Develop estimate for work.	10 days	Thu 12/8/11	Wed 12/21/11	135
137	Determine estimate for regular updating as well as method for updating.	10 days	Thu 12/22/11	Wed 1/4/12	136
138	Obtain funding for base program	40 days	Thu 1/5/12	Wed 2/29/12	137
139	Develop RFP for work	20 days	Thu 3/1/12	Wed 3/28/12	138
140	Advertise, Bid and Award Contract	40 days	Thu 3/29/12	Wed 5/23/12	139



ID	Task Name	Duration	Start	Finish	Predecessors
142	**Create a tool to track development across the state**	**175 days**	**Thu 5/24/12**	**Wed 1/23/13**	**140**
143	Identify local, state and federal government, not-for-profit and private sector user needs.	40 days	Thu 5/24/12	Wed 7/18/12	140
144	Establish specifications.	20 days	Thu 7/19/12	Wed 8/15/12	143
145	Determine how QA/QC will be accomplished in a timely manner.	5 days	Thu 8/16/12	Wed 8/22/12	144
146	Develop estimate for work.	10 days	Thu 8/23/12	Wed 9/5/12	145
147	Obtain funding for base program	40 days	Thu 9/6/12	Wed 10/31/12	146
148	Develop RFP for work	20 days	Thu 11/1/12	Wed 11/28/12	147
149	Advertise, Bid and Award Contract	40 days	Thu 11/29/12	Wed 1/23/13	148
150	**Consider building data conformity and validation software tools.**	**390 days**	**Mon 10/3/11**	**Fri 3/29/13**	
151	Identify local, state and federal government, not-for-profit and private sector user needs.	40 days	Mon 10/3/11	Fri 11/25/11	
152	Determine the cost/benefit of developing such a tool. If valid, proceed.	10 days	Mon 11/28/11	Fri 12/9/11	151
153	Establish specifications.	20 days	Mon 12/12/11	Fri 1/6/12	152
154	Determine how QA/QC will be accomplished in a timely manner.	5 days	Mon 1/9/12	Fri 1/13/12	153
155	Develop estimate for work.	10 days	Mon 1/16/12	Fri 1/27/12	154
156	Develop business case for tools.	5 days	Mon 1/30/12	Fri 2/3/12	155
157	Develop plan to obtain funding for base program	40 days	Mon 2/6/12	Fri 3/30/12	156
158	Execute plan to obtain funds	200 days	Mon 4/2/12	Fri 1/4/13	157
159	Develop RFP for work	20 days	Mon 1/7/13	Fri 2/1/13	158
160	Advertise, Bid and Award Contract	40 days	Mon 2/4/13	Fri 3/29/13	159
161					
162	**Training/Education Work Group**	**650 days**	**Thu 5/28/09**	**Wed 11/23/11**	**14**
163	Encourage trainers and educators to post training/educational opportunities on the GeoLibrary List Serve	30 days	Thu 5/28/09	Wed 7/8/09	
164	Establish a Training/Educational section on the website. Post links to curriculum and training opportunities on the site. Link training opportunities to Calendar of Events.	30 days	Thu 5/28/09	Wed 7/8/09	
165	Work with MEGUG to have members provide short write ups on "Lessons Learned."	40 days	Thu 7/9/09	Wed 9/2/09	164
166	Provide training to select high school teachers as part of a pilot program to enable them to use GIS to improve their ability to teach their courses.	130 days	Thu 9/3/09	Wed 3/3/10	165
167	Work with MEGUG to provide an annual Board funded training course across the state.	130 days	Thu 3/4/10	Wed 9/1/10	166
168	Develop (or adopt) a simple getting started kit for municipalities.	60 days	Thu 9/2/10	Wed 11/24/10	167
169	Provide a training program to help users with less technical capability take advantage of Google or Virtual Earth solutions to meet their base needs.	260 days	Thu 11/25/10	Wed 11/23/11	168



Appendix H – Budget for the Maine GIS Strategic Plan

Appendix H provides a budget for the initiatives outlined in this strategic plan update as well as the operating funding to support the Portal and the work provided for the GeoLibrary by the Office of Maine GIS. As noted in Section 6.6, the funds for the initiatives listed in the budget can come from several different sources. The budget has been established to provide estimated costs for the initiatives as well as the approximate time frames in which they will be required for the plan.

Budget for the Maine GIS Strategic Plan

Program/Operating Costs	FY 09	FY 10	FY 11	FY 12	FY 13	FY14	FY15
Program Costs							
Parcel Grant Program *			$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Integrated Land Records Program *			$ 300,000	$ 300,000	$ 300,000		
Statewide Digital Orthoimagery Program			$1,025,000	$1,600,000	$ 500,000	$ 500,000	$ 500,000
High Resolution Elevation Data				$1,500,000			
Development of Municipal Service Applications			$ 75,000	$ 100,000	$ 25,000		
Zoning Maps Grants			$ 50,000	$ 50,000	$ 50,000	$ 25,000	$ 25,000
Land Cover Updating				$ 100,000	$ 50,000	$ 25,000	$ 25,000
Conservation Land Maps			$ 200,000	$ 200,000	$ 50,000	$ 25,000	$ 25,000
Operating Costs							
MEGIS Operating Costs			$ 206,000	$ 212,180	$ 218,545	$ 225,102	$ 231,855
Statewide GIS Coordinator			$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551
Parcel & Data Assistant			$ 100,000	$ 103,000	$ 106,090	$ 109,273	$ 112,551
Biennial Budget Totals:		**$2,256,000**		**$6,073,905**		**$2,450,605**	

* Note - These numbers need to be coordinated with the final figures from the ILRIS Plan.

Appendix I – Developing Champions

Appendix I was created to provide the GeoLibrary Board with an approach on developing champions. It emphasizes that obtaining a champion is not necessarily a direct path. It notes that champions must be targeted and cultivated on a continual cycle. It also makes clearly states that developing champions must be everyone's goal and responsibility.

Developing Champions

Developing champions of statewide GIS programs is always an interesting proposition and usually not the "direct" path that most GIS councils would like to see happen. Across the country, many state GIS Councils have acquired legislative, administrative and/or organizational champions that have been invaluable in enabling their cause. Similarly, many still struggle to find that individuals or organizations that will "go-to-bat" for them to obtain the right support or appropriate funding at budget time and in times of crisis. A champion is not someone that a GIS Council can pick out of a crowd walking down the street. Most champions have happened because they have been attracted by the successes a State Council has had in working with local and state government or, because, they become awakened to the lure of GIS once they have seen how it could enable them to solve a vexing problem for a cause that they are passionate about.

In order to attract a champion, the GeoLibrary Board has to demonstrate how it is making a difference for the citizens of the state of Maine. That's not to infer that it's not making a difference, but that it needs to have a concerted effort to insure that the Maine geospatial community and key leaders outside of it are better informed on its many accomplishments. (Please refer to the recommended Communications Plan in Appendix E.) For instance, as budgets are currently historically tight, the Board might consider showing how it is saving tax payer dollars by helping to coordinate GIS activities across the state. This might include:

- Providing improved access to data consumed by GIS users across the state.
- Web services that provide access large volumes of raster data (i.e. imagery) is one easy example.
- Providing measurements on the use of web services as well as the value of files downloaded is one way that is easily recognizable by many outside the geospatial community.
- Other ways include determining the number and value of applications or projects that are supported by data that the Board has helped to develop such as digital orthoimagery.
- In other cases, still, working with state agencies such as LURC to get them to post data that is in great demand would certainly help to show how the Board is uniquely able to make significant improvements.
- Establishing sections on the Board's web site that help to provide information on GIS data, application and educational activities across the state and invite sharing and collaboration is another opportunity that the Board could pursue.
- In addition, providing 2-3 applications that can provide easy-to-use municipal services through the Portal is another way.
- Also, if the Board asked municipal governments to provide examples of how services such as these can make a difference, it could then find unique ways to tell those stories through the website, news blips, partnership awards, and presentations across the state. These should not only demonstrate the success of GIS coordination, but also, how the results of these actions can improve the quality of life for the citizens of Maine. Many of these ideas have been incorporated as part of the Communications Plan in Appendix E.

All of this, however, is just the start of finding and developing GIS champions in Maine. Champions must be targeted and developed on a continual cycle. Having a champion is great, however, developing and having multiple champions from diverse sectors and/or involved in different issues provides a much better long term position for the GeoLibrary's initiatives.
Respondents to the on-line survey (refer to Appendix L) suggested a number of individuals as potential champions including many currently involved in Maine State Government such as the Governor, the CIO,

the Director of MEGIS, etc. In addition, others currently outside of State Government include former Governor Angus King, Representative Ted Koffman, Evan Richert, the former Commissioner of State Planning, Dr. Philip Bogden from the Gulf of Maine Ocean Observing System, Bob Mohlar from the Kennebec Land Trust, and Phil Conklin, founder of the Island Institute. All these suggestions should be reviewed carefully and be considered as potential participants in or advisors to the Finance Committee and the Communication Work Group. A more practical way to engage these highly sought-after individuals that has been suggested is to use them in focus groups that might meet annually to provide new ideas and directions that can be put into action by the Finance Committee.

The real key to finding a champion is to let them discover you. However, this rarely occurs by random chance. This is done by listening to people in the various sectors, understanding the issues that are important to them, determining which ones GIS can best solve and the demonstrating to the leadership of each of these sectors how these issues can be resolved using GIS and then working with them to insure that they become aware of the capabilities that GIS can provide in helping to resolve major issues.

The Communications Plan makes it clear that finding and developing champions is not the job of one person or organization to find. It must be a goal that all members of the Board, MEGUG, MEGIS and the geospatial community as a whole embrace and work to achieve. Ultimately, if that group can listen to the needs of those that they're meeting with, learn what their priorities are and show how GIS can be used to save money, improve public safety and other government services, make government more transparent, save on fuel and/or reduce global warming, they should be able to take that message to the key individuals in each sector. Through the power of GIS to provide easy-to-understand visual depictions of complicated analysis, non-technical viewers can quickly learn the value that the technology can bring to resolving their significant issues. If the Board chooses to use that capability and implement the recommendations made in the Communication Plan, they can be successful in obtaining the support that is needed to move Maine's geospatial capabilities forward into the twenty first century.

Appendix J – Sustainable Funding

Appendix J discusses putting in place a process for securing sustainable funding for the Board. It emphasizes securing funding from multiple sources to insure longer term stability. It also recommends consistency in developing the budget items and developing a plan for actively "selling" the budget request.

Sustainable Funding

Sustainable funding is something for which every organization strives. Traditionally, GIS organizations have struggled with achieving it. There are probably a number of reasons for this. In many cases, GIS starts up in so many niches in organizations that it rarely is considered strategically as a "centralized" operation. In other cases, the leaders of GIS initiatives in organizations, while being very talented "GIS people," are not the best communicators, particularly to the non-technical administrators responsible for organizational funding. As a result, they do not make their cases effectively.

These are key elements of what an effective process could look like for the GeoLibrary Board:

- Establish a protocol for submitting budget items
  First of all, there needs to be an agreed process for submitting budgetary needs by the Board for inclusion in the Executive Budget. At present, there doesn't seem to be a standard annual budget process that the GeoLibrary uses. It is assumed that this process most likely would go through MEGIS to the CIO, then, be submitted for inclusion in the Dept. of Administrative and Financial Services budget and, then, proceed through the remainder of the process.

  This has two potential pitfalls for the Board: (1) The GeoLibrary budget is subject to the approval of each layer of government it passes through. Without a proactive approach by the Board, other staff that may be less able to justify its costs may be in the position of presenting it. and (2) The GeoLibrary budget will appear as part of the budget of each layer of government it passes through, making it look like that layer is asking for additional funds. In a time of severe budget shortfalls, when departments are asked to cut back, the GeoLibrary's budget will be the easiest to cut.

  As an independent entity, the Board may have other alternatives to pursue, such submitting their budget directly to the Governor's Office to simplify things. (Alternatively the Board could establish an informal agreement with the executive branch, allowing the Board to go directly to the legislature for inclusion as a legislative bill. If the Board has a champion or series of champions in the legislature, this might work for a period of time. However, an agreed-to-process through the executive branch is probably preferable over the long term.) All options under consideration should be discussed thoroughly by the Board and with the CIO.

- Craft the budget skillfully
  - Determine you budgetary needs. In the first half of the year, hold a planning session (refer to Appendix E – Communications Plan). Use that to establish priorities that the Board and the GIS community have for the coming year and determine costs of those priorities and on-going expenses at that time. Have your preliminary budget put together by mid June.
  - Level off the budget requests so that things like data maintenance, staffing and other operating expenses remain consistent. (One of the best ways to maintain consistent support for a digital orthoimagery program is to keep the funding level consistent and do a designated portion of the state each year.) Where new funding initiatives are sought, concentrate your justifications in those areas.
  - Look at the funding alternatives. Traditionally, the GeoLibrary has obtained funding from bond funds and grants. However, in order to obtain sustainable funding, the Board should examine multiple funding sources. Certainly, as the GeoLibrary's infrastructure role grows, a State government operating budget should be established to cover Board staff, MEGIS support, computer and software maintenance, and data maintenance. If there are major, long term

initiatives; determine if it is better to propose them in the operating budget or as part of bond or grant funding. Develop your budget proposals and justifications accordingly. Examine grant possibilities as well. (FGDC CAP grants are a well recognized source of funds for a number of the Board activities. In other cases, specialty funding for digital orthoimagery can be obtained from the USGS and the NGA.) Where possible, show the potential for grant matches if the funding is made available. Many not-for-profit organizations have full time people looking for grants on a constant basis. Consider assigning the task of locating grants to a Board staff person or someone on the Finance Committee.

- Develop a strategy for getting budget approval
  Don't just assume that everyone will understand and be supportive of the GeoLibrary's need for funding for its existing and proposed programs. Establish a strategy upfront. Identify roles and people to contact/solicit. Meet with GeoLibrary's champions. Obtain their advice on the best approach to sell the budget. Put together a plan outlining what steps are to be taken, when they will be done and who will execute them.

- Selling the Budget
  Plan how to sell each of the items in the budget. As noted in Section 5.2, it is recommended that a business case with an ROI be developed for each of the Board's statewide GIS coordination activities whenever possible. It can be fairly high level at first and then more detail and refinement can be provided as more experience is garnered. Establish a one pager on why these items are required. (Keep the message simple and non-technical. Clearly state what problems the proposed application, data project or new service will solve for the citizens of Maine. Include ROI measures, proofs, and defensible arguments in making the case for sustained funding. If possible, prepare a short demo to use in budget presentations.

  Meet with CIO early on to insure his support. Meet with key legislators and legislative committees to explain your ideas.

  Have Board members engage their constituencies for support with the legislature and the Governor's Office. Insure that all Board, committee and work group members understand the budget and articulate why it is needed. (Board members from State agencies have certain restrictions on advocating for this budget.) As a result, other Board members will need to be in the forefront.

- Post Evaluation
  At the end of the budget cycle, document what was effective and where improvements in the process were needed for the following year. Include that information in your annual planning session and make the appropriate adjustments to your plans.

Appendix K – Situation Analysis

The Situation Analysis provided in Appendix K was developed by the Sewall Team after several meetings with the Board as well approximately 140 stakeholders in the four forums. It also included input gained from the on-line survey and various other meetings and presentations. It was designed to objectively review the GeoLibrary's strength, weaknesses, opportunities and threats and was then used as part of the process of evaluating the issues and potential solutions identified in Appendix D.

Situation Analysis

1.0 Strengths

- Rich GIS history
- Mature GIS operations and a strong metadata clearinghouse supported by the Maine Office of GIS.
  - Statewide data readily available for download.
- Have parcel standard.
- Have statewide addressing for State agencies only.
- Have a strong, well organized leadership group in the Maine GeoLibrary, ME GIS Office and MEGUG.
- Have authority to coordinate statewide GIS activities.
- Have knowledgeable Board members and geographical and sector diversity.
- Have ability to contract through the ME CIO's Office.
- Solid support (both in the conception of GeoLibrary Board and staff support for the Board and its operations) by the CIO.
- Adoption of GIS technology by the major municipalities and recognition of its benefits by many others.
- New statewide system (GeoLibrary List Serve) for two way communication on statewide geospatial issues, activities or events
- Active and engaged GIS Users group (MEGUG)

2.0 Weaknesses

- No one GIS coordinator for statewide coordination.
- No political champion.
- Limited knowledge on what immediate difference it would make if the Maine GeoLibrary were eliminated. What would be the resulting impact on government, the private sector or citizens?
- GIS not yet incorporated into State enterprise system as service-oriented architecture (SOA).
- Limited use of on-line GIS to improve citizen access to government services.
- Limited use of state parcel standard.
- Funding for current operations is almost exhausted.
- No funding for future GeoLibrary Board activities.
- No funding to support future data creation and maintenance.
- Unable to pay for support provided by the CIO's Office.
- Data in the GeoLibrary is not consistently kept up to date.
- The use of GIS and geospatial technologies to deliver core services to citizens is limited.
- Poor or limited communication.
  - Limited direct communication by individual Board members to constituencies represented by those members.
  - Limited communication from the statewide geospatial community to the Board.
  - Limited communication to those non-technical decision makers who could see positive benefits from the use of geospatial information.
- General lack of awareness of the importance of the GeoLibrary Board's GIS activities as well as those at the federal, state, regional, county and local government levels.
- General need for non-technical information that would help "make the case" for investments in geospatial technology. Examples of the types of information that would be most useful include:
  - Funding and ROI case studies.
  - Use cases that document the benefits of GIS to assist in specific government operations.
  - Best practices for data creation, maintenance, and management.

- Lack of priority on statewide GIS coordination at the State level.
- Significant disparity between the municipal community's adoption of GIS.

3.0 Opportunities

- Take advantage of the Governor's push toward consolidation.
- Take advantage of high profile projects using GIS – wind power, GoMOOS, impact of climate change, and others to promote uses of GIS
- Leverage federal initiatives for the NSDI including The National Map as well as the current NOAA/USGS initiative to inventory and document existing coastal geospatial data in Geospatial One Stop (GOS)
- Significant potential efficiencies created by development of an ILRIS for the legal, surveying and real estate communities.
- Widespread public use of free or inexpensive geospatial tools may help catapult the use of geospatial technologies in the State.
- There are numerous low cost opportunities for GIS coordination activities.
- The budget deficit and its resulting impact on governments across the State could provide a basis to demonstrate cost savings and efficiencies in operations, and better service to citizens by eliminating redundancy and improving quality of service through better statewide GIS coordination.
- Consider opportunities for greater coordination in the collection of critical infrastructure information.
- Development of forward-thinking plans for collection of geospatial data
- Consider opportunities for greater coordination in the collection of framework layers including orthoimagery and enhanced elevation data
- Develop a technical assistance program to assist municipalities just starting out with GIS and/or provide them with GIS services. There appears to be a diverse need for support, including but not limited to:
    - Educational materials and GIS (and related training).
    - Procurement support.
    - Technical assistance and access to the "lessons learned" by others.
    - Technical support for current GIS operations.
    - Providing shared GIS services including shared licensing arrangements
    - Access to non-technical geospatially empowered on-line applications to allow municipal, county and regional users access to applications that assist them in meeting their operational needs.

4.0 Threats

- Budget deficit.
- Lack of funding:
    - $2.3 million bond issue almost all obligated at this point.
    - No additional funding approved for the continuation of the GeoLibrary Board's activities.
- Perception of lack of relevancy:
    - Without additional funding to impact geospatial development in the State and without improving its statewide coordination efforts, the relevancy of the GeoLibrary Board may come into question.
- Potentially competing initiatives for data infrastructure, inventory etc. Examples include activities related to the Gulf of Maine:
    - Gulf of Maine Ocean Data Partnership (http://www.gomodp.org/)
    - Gulf of Maine Census of Marine Life (http://research.usm.maine.edu/gulfofmaine-census/data-mapping/)
    - The Gulf of Maine Mapping Initiative (http://www.gulfofmaine.org/gommi/)

    - Gulf of Maine Council on the Marine Environment.
- Uncooperative federal agencies – FEMA
- State agencies that do not communicate their activities and needs to the GeoLibrary or the State Agency Stakeholder Group

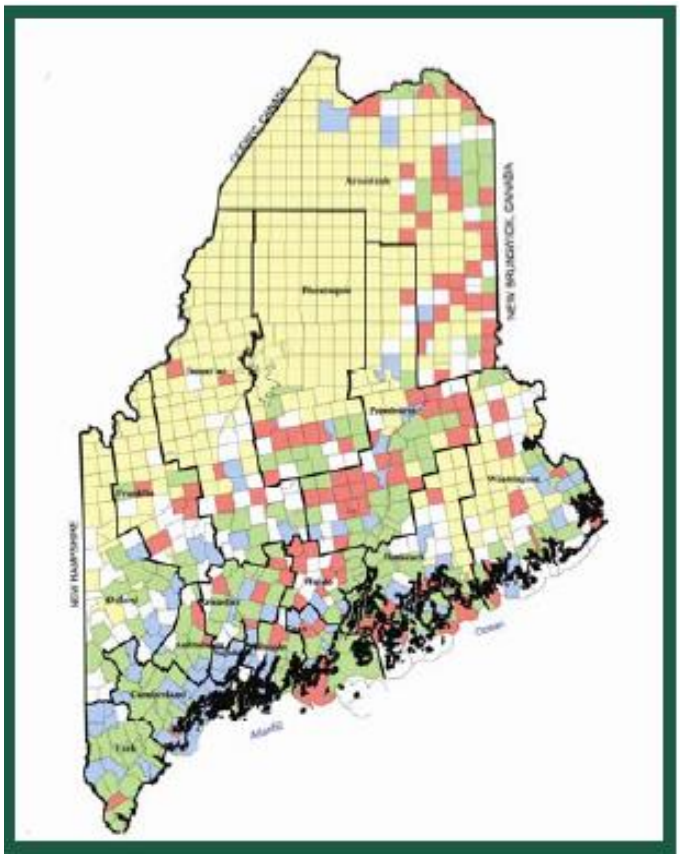
Appendix L – On-Line Survey Report

An on-line survey was conducted between April 23, 2008 and June 4, 2008. Its purpose was to solicit input on strategic planning for statewide GIS coordination and lands records issues from a wide variety of responders across Maine some of whom may not have had the opportunity to attend the Forums that were held.

The survey was originally scheduled to be open for 3 weeks and was advertised by e-mail, through the web site and at presentations, meetings and Forums. The time frame was extended to accommodate input from attendees at the Forums and other meetings that were held on the project throughout May. In the end, 245 individuals participated in this survey.

2008 Maine GeoLibrary Board Survey
Summary Report

Developed as part of the State of Maine GeoLibrary Board's
"Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework"



Submitted by:
James W. Sewall Company

June 24, 2008

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Executive Summary

This survey was conducted under the auspices of the Maine GeoLibrary Board as part of its project entitled, "Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework." Its purpose was to solicit input on strategic planning for statewide GIS coordination and lands records issues from a wide variety of responders across Maine.

While the Sewall Team does not, in any way, wish to portray this survey as being a "scientific" survey, it does believe that there are much valuable material and good ideas provided by the 245 respondents from the geospatial and related communities in Maine that made the effort to provide their input. The Sewall Team also realizes that many conclusions can be drawn from the survey other than the ones it has drawn and it welcomes input from others after they have had a time to digest the material.

The survey attracted a wide variety of respondents with approximately 60% being from government and the remainder being from the private sector, not-for-profits, academia, and utilities. There was a good diversity between technical and non-technical users as well.

Geographic information systems (GIS) were noted as having a wide variety of important uses in Maine. Key among those were environmental and land conservation issues; real estate and development issues; and tax assessment, emergency management, transportation and public safety.

The major top actions delineated by the respondents that could be done to improve GIS Coordination in Maine were: providing updated imagery; improving the accessibility of data as well as providing web mapping services for both state and local data; delivering an integrated land records information system; improving statewide communication; providing shared GIS services or regional GIS service centers; and providing better GIS educational/training opportunities.

When asked what source was the most appropriate for long term sustainable funding of statewide GIS activities, 18% indicated that it should come from general state funding designated by the legislature, 17% believed that it should come from cost sharing between state and municipal governments; and 15% believed it should come from a real estate transfer tax. However, a number of those responding encouraged a combination of funding sources be used rather than one single source.

A number of suggestions were made for potential political or executive champions for statewide GIS coordination. These ranged from current, former and future governors to legislators, the state CIO, the MEGIS Director and individuals in the private sector, not-for-profits and government. (While this wasn't necessarily raised in the survey, a combination of champions (similar to the suggested funding approach) might be a useful approach for the GeoLibrary Board to consider.)

Time and time again the importance of having good parcel data and an integrated land records system was made clear by the respondents. On the one hand, parcel data was seen as fundamental for the private industry for development and the real estate industry. On the other, it was also seen as critical for the public sector for open space planning wildlife conservation and tax assessment. It was also specifically noted as being critical to emergency management, regulation, and asset management.

Multiple times, the "need" for an integrated land records system now was made one of the top selections by the responders. This is, in some ways, supported by the responders indication of the number of organizations now providing parcel data at no cost (or gaining limited annual income from it),

the current accessibility of parcel data via the internet and the accessibility to high speed internet service by 99% of the responders.

The benefits of an integrated lands records information system were seen as saving time, costs and resources for those both assessing the data and those supplying the data. Other benefits specifically listed included improving the transparency of government, reducing gas use and carbon emissions by saving trips to government offices and improving the overall quality of the data.

Survey Background

The survey was conducted between April 23, 2008 and June 4, 2008. It was originally scheduled to be open for 3 weeks, but the time frame was increased to accommodate input from attendees at the Forums and other meetings that were held on the project throughout May. 245 individuals completed all or part of the survey. 188 completed the entire survey. That comprises a reasonable number of participants for a survey of this type. 167 of the participants provided us with an e-mail address and will be sent a copy of the survey results as promised.

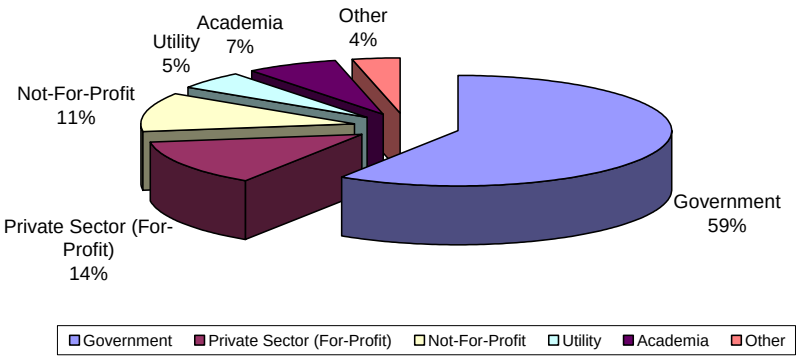
Survey Findings

The survey results are discussed in the following sections. Comments on the survey are welcome. Please feel free to submit them to: bruce.oswald@gmail.com. The Sewall Team would like to thank all that responded to the survey and all that contributed to putting the survey together and working to make it a success.

Discussion on Respondents

Of the 245 participants, 59% were in government 14% were in the private sector and 11% were in not-for-profit. The pie chart below provides a breakdown of all the participants.

Breakdown of Respondents by Sector



Government Sector

Of those respondents from the government sector, 54% were in municipal government, 28% were in state government, 10% were in federal government and the remainder in regional and county government. More than half of the government participants indicated that they had geospatial/GIS applications on the Internet to assist in making their department or agency more accessible to citizens. This is a very healthy sign.

For those in departments or agencies that did not have geospatial/GIS applications on the Internet, the major reasons for not doing that were as shown below. (Note that only one did not see the value in having geospatial/GIS applications on the Internet.):

5. If you work in a government agency and "don't" have geospatial/GIS applications on the internet to assist in making your government agency or department more accessible to its citizens, what are the reasons that you don't? (please select all that apply)

	Response Percent	Response Count
Don't see value	1.3%	1
Too difficult to do	9.2%	7
Don't have the technology	25.0%	19
Don't have the data	23.7%	18
Don't have the funding	52.6%	40
Don't have the time	36.8%	28
Other (please specify)	40.8%	31
answered question		76
skipped question		169

Private Sector

Of the 33 participants that were from the private sector, 17 were GIS consultants or engineers, 9 were commercial users that used GIS as a tool for the job, and 4 were surveyors. They indicated that they used GIS as follows:

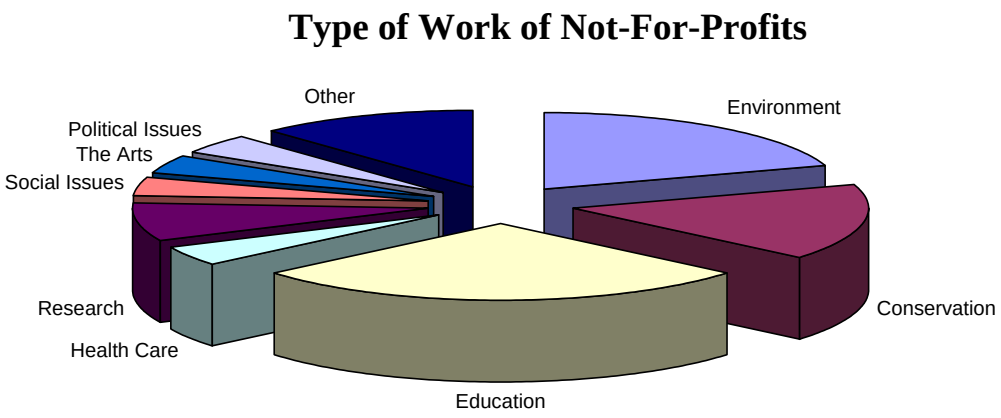
7. If you are in the private sector, what does your company use GIS for? (Please select all that apply)

	Response Percent	Response Count
Research	45.2%	14
Marketing	19.4%	6
Conservation	25.8%	8
Development	38.7%	12
Providing services to your customers or business partners	71.0%	22
Other business requirements	22.6%	7
answered question		31
skipped question		214

42% (13) of them have geospatial/GIS applications on the internet to assist in meeting customer needs. For those that did not have these applications on the internet, half (8) say they did not have the technology and half (8) say they did not have the funding. 20% (3) did not see the value.

Not-For-Profit Sector

Of those responding to the survey from the not-for-profit sector, the following is the breakdown of how they use GIS:



Only 22% (2 out of 9) of the not-for-profits responded that they had geospatial/GIS applications on the internet to assist in meeting customer needs. Their major reasons for not having it were funding followed by lack of technology, data and time.

Academic Sector

14 responded to the questions in the academic section. Of those, 3 were students, 3 college level professors, and 2 were researchers. No responses were received from K-12 teachers using GIS. The majority of those responding used GIS for course work (11), research (11) and as a teaching aid (5).

Utility Sector

There were 13 from the utility sector that participated in the survey. 9-12 of those completed the questions specific to that sector. Their use of GIS is as noted below:

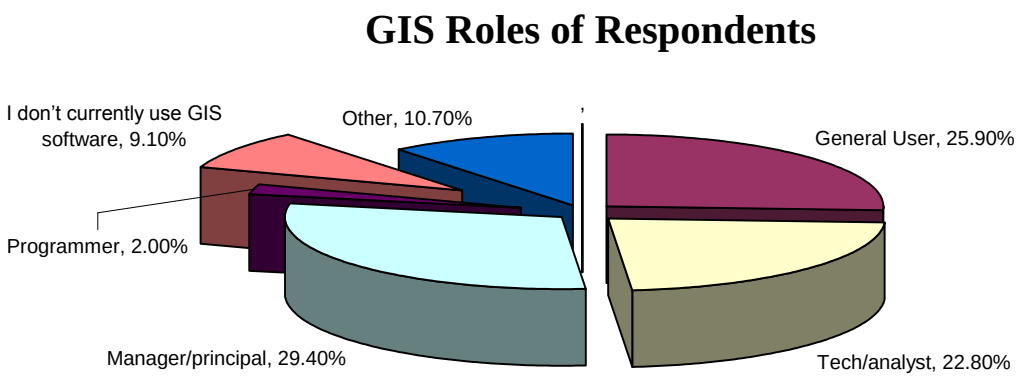
16. If you work for a utility company, what does your company use GIS for? (Please select all that apply) If you do not work for a utility, please move to the next page by hitting "next" below.

	Response Percent	Response Count
Research	20.0%	2
Marketing	10.0%	1
Determining Rights of Way	40.0%	4
Property or facility management	70.0%	7
Providing services to your customers or business partners	50.0%	5
Other	50.0%	5
answered question		10
skipped question		235

Only two of those that responded from the Utility Sector stated that they had geospatial/GIS applications on the internet to assist in meeting customer needs. The major reasons they gave for not having those applications were that they did not have the funding (67%); did not have the technology (56%) and did not have the data (44%).

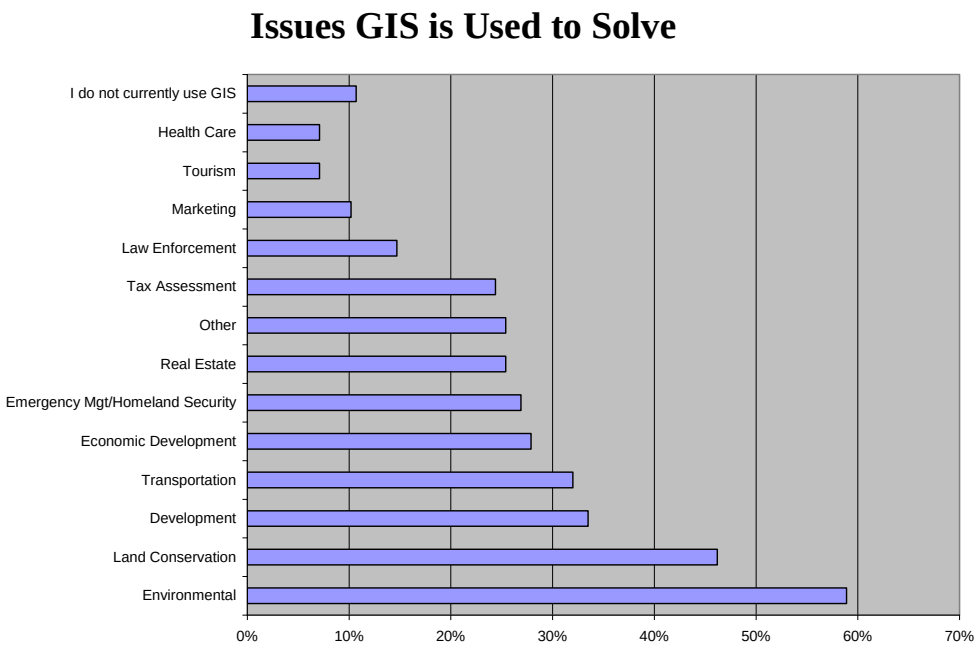
GIS Roles

197 responded to the question on what their role was in the use of GIS. As you will note from the following pie diagram, there is a good split in the respondents across most roles:



Issues That GIS Solves in Maine

Below is the breakdown of what issues the 197 respondents to this question use GIS to solve. By far the largest use is for environmental and land conservation with development, economic development and transportation falling in behind that. Overall, this shows a diverse use of GIS by the respondents.



Sources for Sustainable Funding

When asked what source they felt was the most appropriate for long term "sustainable" funding for statewide GIS coordination efforts, 33% did not know; 18% believed that it should come from general state funding designated by the legislature; 17% believed that it should come from cost sharing between state and municipal governments; and 15% believed it should come from a real estate transfer tax. Only 6% believed that it should come from an E-911 surcharge and 3% from a bond issue. (Please note that a number of those responding encouraged a combination of funding sources be used rather than a single source.)

Political or Executive Champions

When asked who the respondents thought would be a good political or executive champion for GIS coordination efforts in the state, 90 of the 196 responding did not know of one; 15 suggested the governor or the future governor; 13 suggested former governor Angus King; 18 suggested legislators (only a few specifically); 8 suggested the Mike Smith of MEGIS Director, specifically, or the just the MEGIS Director; 7 suggested Dick Thompson, the State CIO, specifically of the CIO or the office of Information Technology; 7 suggested the planning office or someone in it; 3 suggested Representative Ted Koffman (Bar Harbor); 3 suggested Evan Richert, former Commissioner of State Planning; 3 suggested Jim Page, CEO of the James W. Sewall Company, specifically, or Sewall; 2 suggested Soil and Water Conservation Districts; 2 suggested Dr. Philip Bogden from the Gulf of Maine Ocean Observing System; 2 suggested Bob Mohlar from the Kennebec Land Trust; 2 suggested Dan Walters from the United States Geological Survey; and 2 suggested Phil Conklin, founder of the Island Institute. (Similarly to the idea noted above for multiple funding sources, developing a campaign or initiative to engage multiple champions from various sectors is an idea which the GeoLibrary Board may wish to consider.) The entire listing is attached. (Refer to Appendix I.)

Helpful Statewide Applications

When asked what statewide on-line GIS application that you "don't" currently have would best help your organization?", 42% indicated an integrated tax parcel mapping service; 21% indicated web mapping services, and 8% indicated a geo-coding service.

Actions That Could Improve GIS Coordination

When asked to rank ten actions that could be taken to improve GIS coordination in Maine, the top four were (in order of highest ranking):

1. Provide updated digital Orthoimagery;
2. Provide web mapping services for local and statewide data;
3. Provide integrated land records information; and
4. Provide shared GIS services or regional service centers.

The entire rankings are noted below:

Action	Ranking
Provide updated Digital Orthoimagery.	1
Provide web mapping services for local and statewide data.	2
Provide integrated land records information.	3
Provide shared GIS services or regional service centers.	4
Provide technical support (i.e. Help Desk) for current GIS operations.	5
Provide other updated data.	6
Provide training or self-educational materials (i.e. GIS starter kits) for geospatial technologies.	7
Provide procurement support for geospatial technology or services (i.e. Term Service Contracts for GIS Services).	8
Improve communication to allow GIS users the ability to stay in touch with GIS related issues, activities and opportunities around the state.	9
Provide access to the "geospatial lessons learned" by others.	10

Interestingly, the item ranked 6th overall was the need to provide "other" data. Chief among the suggestions provided were statewide integrated roads, elevation, hydrography, wetlands, flood plain and land cover data. Also, included in the listing were a number of additional references to parcel data. All the suggestions made are listed in Appendix IV.

Short Term Implementable Actions

When asked what "implementable" actions the GeoLibrary Board could take in the next 12 months, 255 suggestions were provided by the respondents. The major themes of those suggestions were as follows:

- Conduct a comprehensive campaign for GIS awareness and funding;
- Improve Board communication;
- Improve Board coordination activities;

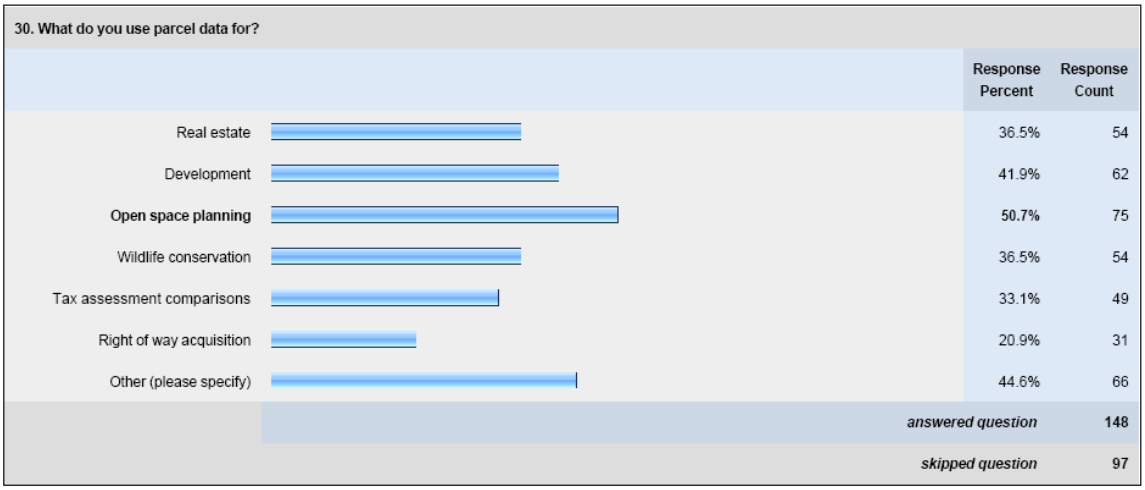
- Improve data development, inventorying, access, and delivery;
- Initiate an integrated land records information system;
- Deliver a geo-portal;
- Develop regional GIS centers;
- Establish web services with state and local data;
- Develop a simple-to-use applications;
- Provide education; provide funding;
- Develop a help desk; and
- Make available cheaper or "open" software;

The entire list of these suggestions is available in Appendix II.

Use of Parcel Data

77% of those responding noted that they use parcel data. 89% responded that they use digital parcel data while 57% indicated that paper maps (respondents could indicate both if they used both). Of those that use parcel data, 39% use it for one town, 20% use it for more than one town, and 42% use it for more than one county.

Interestingly enough, parcel data is used for a wide variety of things. The survey revealed that 51% of the respondents use it for open space planning while 42% use it for development. The following chart provides the full results of the survey on its use.



30. What do you use parcel data for?

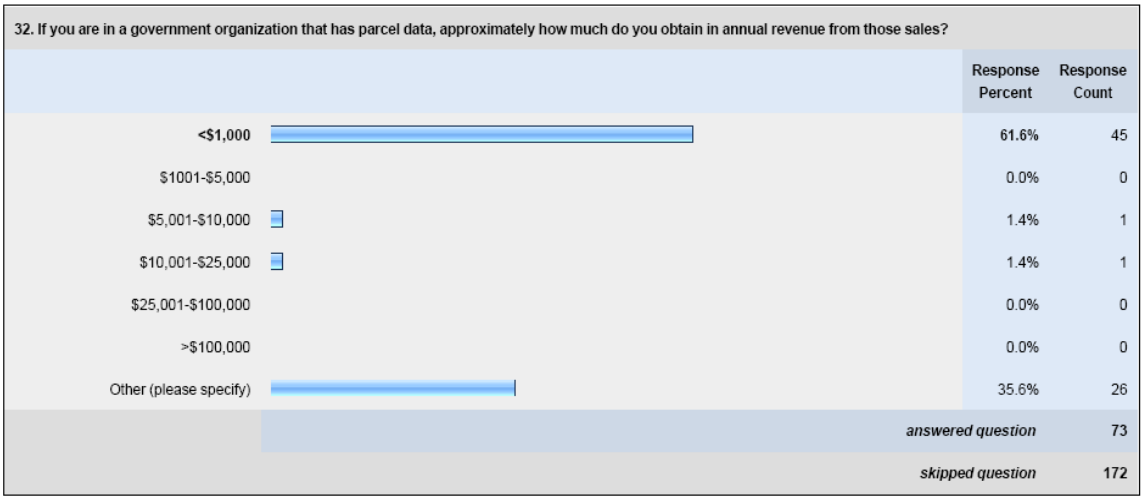
	Response Percent	Response Count
Real estate	36.5%	54
Development	41.9%	62
Open space planning	**50.7%**	75
Wildlife conservation	36.5%	54
Tax assessment comparisons	33.1%	49
Right of way acquisition	20.9%	31
Other (please specify)	44.6%	66
answered question		148
skipped question		97

In addition to the uses specifically noted in the survey, a number of other important uses of parcel data were provided in the "Other" category. These included E-911, emergency management, environmental, land use and comprehensive planning, regulation and permitting, asset management, zoning, and surveying. (Refer to Appendix III for the entire list.)

Distribution of Parcel Data

For government organizations that have parcel data, nearly half (47%) distribute it at no cost. 13% do not distribute parcel data. 8% distribute parcel data at a per parcel fee. 12% distribute data with a onetime fee for all parcels. No one responding to the survey indicated that they distribute their data with a paid subscription service.

The chart below indicates that 62% of those answering the question, obtained less than $1,000 per year on revenue from the sale of parcel data.

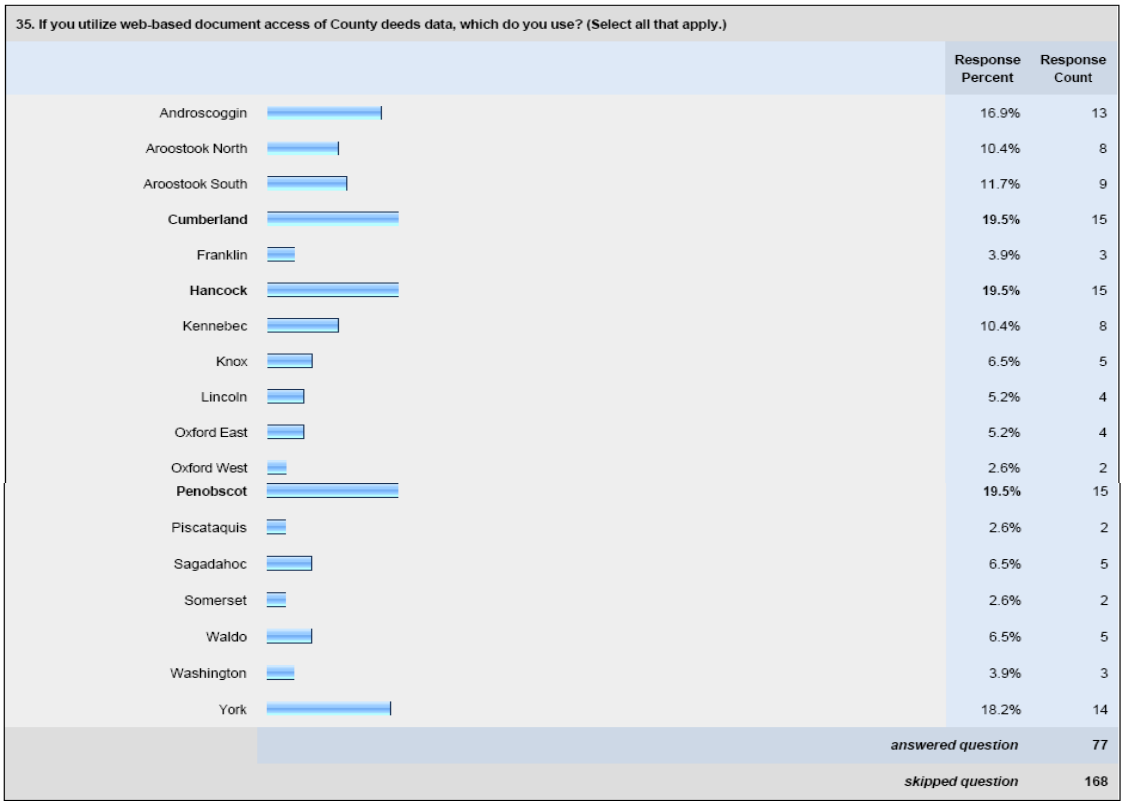


32. If you are in a government organization that has parcel data, approximately how much do you obtain in annual revenue from those sales?

	Response Percent	Response Count
<$1,000	**61.6%**	45
$1001-$5,000	0.0%	0
$5,001-$10,000	1.4%	1
$10,001-$25,000	1.4%	1
$25,001-$100,000	0.0%	0
>$100,000	0.0%	0
Other (please specify)	35.6%	26
answered question		73
skipped question		172

On-Line Parcel Data Access

Of those government organizations responding to the survey that had parcel data, 41% indicated that they had that data on-line. 42% of the respondents indicated that they utilize web-based document access of County deeds data. Below is a chart that indicates which web based County deeds they use:



35. If you utilize web-based document access of County deeds data, which do you use? (Select all that apply.)

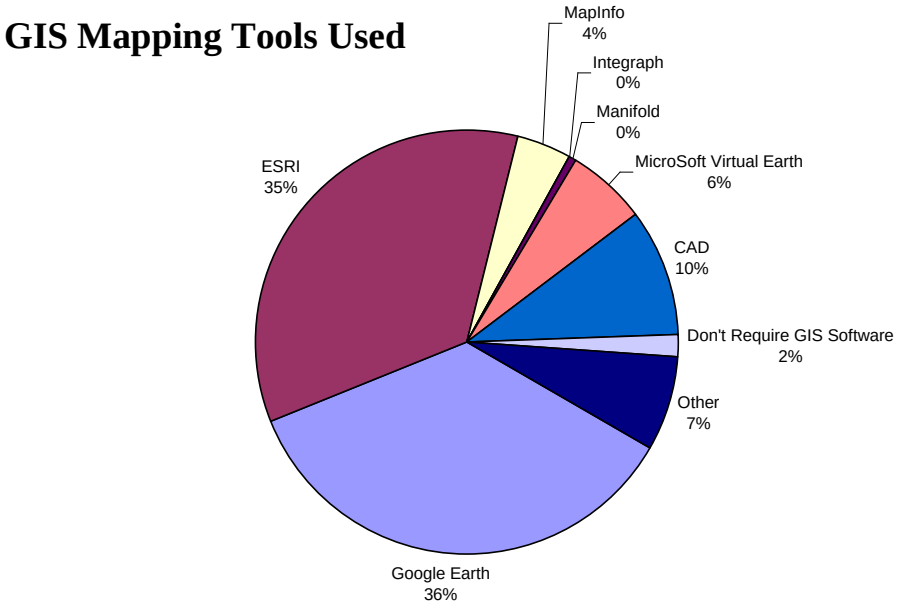
	Response Percent	Response Count
Androscoggin	16.9%	13
Aroostook North	10.4%	8
Aroostook South	11.7%	9
Cumberland	**19.5%**	15
Franklin	3.9%	3
Hancock	**19.5%**	15
Kennebec	10.4%	8
Knox	6.5%	5
Lincoln	5.2%	4
Oxford East	5.2%	4
Oxford West	2.6%	2
Penobscot	**19.5%**	15
Piscataquis	2.6%	2
Sagadahoc	6.5%	5
Somerset	2.6%	2
Waldo	6.5%	5
Washington	3.9%	3
York	18.2%	14
answered question		77
skipped question		168

Access to High Speed Broadband

27% of those responding indicated that they have access to high speed broadband web download/upload capabilities at work only; 2% at home only; 70% at both work and home; and only 1% had access at neither.

Geospatial Tools Used

The chart below indicates the widespread use of Google Earth by the respondents. The fact that it was actually more used than ESRI might suggest that the Board examine the potential for making KML files available from the GeoLibrary.



Parcel Attributes Most Helpful

The parcel attributes which the respondents felt would be most helpful were (in priority order): parcel ownership (88%), parcel size (87%), parcel land and building value (60%), parcel date of last sale (51%), and parcel sale price (42%).

Benefits of an Integrated Land Records Information System

The chart on the following page depicts those benefits that the respondents foresee from the use of an on-line system that provides access to state, county and municipal tax parcel data in a consistent, easy-to-use format. Among the major benefits noted are the obvious time and cost savings to those accessing the data. However, in addition, the next most acclaimed benefits are the savings of resources for those providing the data and their ability to then be able to concentrate more on other important duties. Among benefits listed under the "Other" category were more transparency in government, reduction in gas use and carbon emissions because of a reduction of vehicle trips to government offices to obtain data and the improved quality of the data. All of these are important points to consider.

39. What potential benefits do you envision might come from an on-line system that provides you access to state, county and municipal tax parcel data in a consistent, easy-to-use format? (Please indicate all that apply.)

	Response Percent	Response Count
Save time for those accessing the data	**91.7%**	166
Save costs for those accessing the data	73.5%	133
Save costs for those providing the data	54.7%	99
Save resources for those providing the data	59.1%	107
Reduce congestion at county and municipal offices	50.8%	92
Allow county and municipal employees to focus on other important duties	61.3%	111
Increase revenues for those providing the data	17.7%	32
Other (please specify)	14.4%	26
	answered question	**181**
	skipped question	**64**

Analysis of Findings

As noted earlier, the response to the survey was excellent. Not only was the overall number of participants impressive at 245, but, the breakdown of recipients by sector was very good as well. Also, the survey got good participation from a wide variety of different types of users from general users to technicians to managers.

The major uses of GIS by the respondents included environmental, land conservation, development, transportation, emergency management/homeland security, real estate and tax assessment. It is clear from the results that the use of GIS in Maine provides a wide range of benefits.

When asked what source the respondents felt was most appropriate for long term "sustainable" funding of statewide GIS coordination efforts, 18% believed that it should come from general state funding designated by the legislature, 17% believed that it should come from cost sharing between state and municipal governments, and 15% believed it should come from a real estate transfer tax. It should be noted, however, that that many suggested using multiple funding sources rather than a single one. Likewise, when the respondents were asked to suggest political or executive champions, almost half did not know of any. However, the majority of those suggested by the respondents were either the current or former governors or legislators. This type of champion seems to be logical considering where this community perceives the funding should come from.

The survey confirmed that having an on-line integrated land records information system in place was extremely important to the respondents. It also showed that updated imagery and access to state and local data via web services was important as well. (It is worth noting that a number of folks did ask for the release of orthoimagery in the Hancock/Downeast areas.) 42% of the respondents indicated that an integrated tax parcel mapping service was the on-line application that they did not have at this time that would best help their organization. This ranked twice as high as web mapping services which was second at 21%. When asked to rank 10 actions that could be taken by the Board to improve GIS coordination in Maine, updating the digital orthoimagery was number one. Second was providing web mapping services for local and statewide data. This was followed by providing an integrated land records system and providing shared GIS services or regional service centers.

When given the statement, "Recognizing that the GeoLibrary Board has limited funds, please tell us at least three implementable things that you would like to see from the GeoLibrary Board in the next 12 months," the vast majority of requests came, once again, for imagery and other data related issues. Key among the data issues was better access to existing state and local data. Training was also a major request as well as the initiation of an integrated land records information system and the data portal. Finally, improved communication and coordination activities by the Board and conducting a campaign for GIS awareness and funding were seen as key things to be done by the Board.

Unfortunately, many of these suggestions require substantial funds. However, there were a number of other good suggestions that were put forth that could be examined by the Board for implementation. These include putting more data on line for downloading or making it available through web mapping services, making the data easier to find and simply routinely notifying folks when new or updated data was made available. There were also a number of very good low or no cost items relating to communication and coordination activities that could be implemented. These included simple things that could be accomplished by keeping the website up to date and consistently using the list serve to keep the GIS community aware of Board activities and developing a simple GIS promotion program that could used in different parts of the State.

When it came to examining the use of parcel data, there were a number of factors that pointed to the timeliness of developing an on-line integrated land records information system for the Maine user community at this time. Key among the results was that 77% of those responding indicated that they used parcel data. 89% of those using parcel data said that they used digital parcel data and 42% indicated that they used parcel data from more than one county. The need for good parcel data seemed obvious as the respondents indicated that it was not only vital for open space planning, conservation, development and real estate, but also E-911, emergency management, regulation and various other types of planning as well.

While it was clear that revenue from parcel data sales was an important issue, nearly half of the respondents indicated that they distribute parcel data at no cost. Furthermore, the scale of the actual revenue captured from the data by those that sold it seemed relatively small as 62% of those responding that indicated their government organization sold parcel data stated that they made less than $1,000 per year on those sales. As far as access to this data went, only 13% indicated that they did not distribute parcel data.

It was interesting to note that 41% of government organizations responding noted that they have parcel data on-line already. 42% of the respondents reported that they currently utilize web-based document access of County deed data. It was also interesting that only 1% of the respondents indicated that they do not have access to high speed broadband to download data either at home or at work. A sign of the changing times was noted when an almost equal number of folks indicated that they used Google Earth (36%) and ESRI (35%) products for GIS mapping tools.

Finally, when asking the respondents about the major benefits of an on-line integrated land records information system, they noted the obvious savings of time and cost to those accessing the data. However, in addition, the next most acclaimed benefits which they made clear were the savings of resources for those providing the data and their ability to then be able to concentrate more on other important duties. Among benefits listed under the “Other” category were more transparency in government, reduction in gas use and carbon emissions because of a reduction of vehicle trips and improved quality of the data. Clearly all of these are important to consider in designing an on-line integrated land records information system.

2008 Maine GeoLibrary Board Survey
Summary Report Appendices

Survey Appendix I – Summary of Potential Champions

Suggestions for Good Political or Executive Champions for Statewide GIS Coordination

Sector	Suggestion
Businessmen or Businesses or Business Associations	
	A prominent business executive who can make clear business and ROI cases
	Alan Stearns and Cindy Bastey (BP&L)
	DeLorme
	James Page, Sewall Co.
	Jim Page - Sewall Co.
	James Sewall Company
	Judy Colby-George (Spatial Alternatives)
	Law firms that deal with real estate title work
	The President of Cianbro Corp.
	Private industry (environmental, engineering, geospatial, monitoring, transportation, utilities, emergency mgmt.)
	Real Estate Agents
	Real estate, developers
State Agency Staff	
	Dick Thompson - CIO
	Dick Thompson CIO from Palermo
	Dick Thompson, CIO
	Richard B Thompson (Dick) OIT CIO Augusta
	OIT - CIO
	State CIO
	OIT
	MEGIS Director
	MEGIS Director
	MeGIS Director
	Michael Smith (OIT)
	Mike Smith, Office of GIS
	Mike Smith, Office of GIS
	Mike Smith, Office of GIS
	Maine Office of GIS
	Commissioner of Department of Conservation
	Commissioner of the Dept of Conservation
	Dave Littell, DEP Commissioner
	Heads of applicable agencies: DMR, DEP, MEMA, etc. should play this role & could do so better with education about GIS

natural resource agencies
DEP or DHHS commissioner
Dept of conservation
Dora Anne Mills, Director, Maine Center for Disease Control and Prevention
Head of Dept of Economic & community development
Director of Maine Emergency Management Agency
Maine Emergency Mgmt Agency
E9-1-1 bureau
LURC
Maine State Library
Catherine S. Renault, Ph.D. - she is the Director of the Office of Innovation
Director of State Planning Office (b and c are more hopes than current reality)
Tim Glidden, State Planning Office
Tim Glidden (State Planning Office)
state planning office
State Planning Office
Someone like Evan Rickert, former Dir of State Planning Office
Andrew McNeally, MPS
Col. Flemming Maine State Police
State Police
Robert G. Marvinney, Director and State Geologist
Should discuss and coordinate with Maine Department of Transportation
DOT
Agency Commissioners
Agency head
State agency commissioners
Stand alone department
State Dept Heads
Secretary of State
Steve Rowe, Attorney General

Governor/Former Governor

Angus King
Angus King
Angus King
Angus King
Angus King
Angus King
Angus King from Brunswick, ME
Angus King of Brunswick

	Angus King, Brunswick Maine
	Angus King, former Governor
	Angus King, former Governor, Brunswick
	Angus King?
	Former Governor Angus King from Brunswick, ME
	Any governor
	Governor
	Governor
	governor
	governor
	Governor
	Governor
	governor
	Governor
	Governor
	GOVERNOR
	Governor
	John Baldacci
	John Baldacci
	The Governor
	The next Governor
State Legislators/ Senators/ Representatives	
	Legislator
	legislator
	Legislator Peter Edgecom
	Legislator(s)
	legislators
	Legislators
	LEGISLATORS
	Legislators
	Legislators
	Legislature
	Legislator
	Bob Duchesne, legislator
	Chris Babbidge, Legislator
	educated legislators
	Chair of the Natural Resources Committee
	Heads of key legislative committees
	really not sure, but certainly support from legislators is important
	Sen. William Diamond - Chair Public Safety/Criminal Justice Joint Standing Committee
	Senator John Martin
	Tom Allen

Representative Hill from York
Rep (soon to be former) Kauffman: COA connection, strong GIS Program there
Rep. Ted Koffman (but I think this may have been his last term.)
Ted Koffman
Mike Michaud
State Representatives
Senator Collins

Academia

An academic tied to R and D with a good reputation with Augusta - look at the Muskie School
Mathew Bambton - Mathew is persuasive in is grasp of GIS and in his ability to speak to a non-GIS audience
Charlie Colgan
Tora Johnson, UMaine Machias
Mark Markmatson, UMPI
Richard Pattenaud
Evan Richart
Evan Richert
Evan Richert, Bangor ME (Muskie School Public Service)
Dr. Wang, UMPI
UM System, d. Industry leader e. Legislator, f. Any visionary
University of Maine system

Municipal Government

Bob Bistrais of Readfield, ME
Steve Burns, Planner York Maine
Greg Copeland of Biddeford/Saco
Peter Edgecomb from Caribou, ME
Jeremy Fisher form Presque Isle, ME
Jon Giles from Westbrook, ME
Eric Labelle from Auburn, Maine
John Martin from Eagle Lake, ME
Barry Tibbetts, Kennebunk Town Manager
City Managers
Town assessors
assessor
Assessor Kyle Avila Mount Desert, Maine
Town engineers
TOWN MANAGERS
local regulators (town or county officials)
manager or planner from large Maine city or town

	Municipal governments
	municipal officials
	Municipalities
	Municipalities
	Municipalities
	Managers
	Towns - MMA?
County Government	
	Counties
	County Soil & Water Conservation Districts
	county soil & water conservation districts
	EMA Personnel
	Heads of County Registries of Deeds
Federal Government	
	Dan
	Dan Walters, USGS, Augusta
Environmental NGO's/Groups	
	Alan Caron, Yarmouth ME (Grow Smart Maine)
	Philip Blogden
	Philip Bogden of GoMOOS, Portland
	Phil Bogden GoMOOS Portland
	Philip Conkling of Island Institute, Rockland
	Phil Conklin? Island Institute
	Scott Dickerson (Island Institute)
	executive director of either the Nature Conservancy or Maine Audubon Society
	Forest, Marine Organizations
	GrowSmart Maine
	Maine Development Foundation
	NGOs (economic development, environmental, public health, and land conservation groups)
	John Piotti (Unity I think)
	Bob Mohlar from Readfield
	Rob Mohlar from Readfield
Regional Organizations	
	Anyone in favor of regionalization in general and regional efforts for land use planning
	Economic Development/regional organizations
	JT Lockman, SMRPC
	Northern Maine Development Commission
	Robert Thompson from AVCOG

Associations	
	Maine Association of Planners - Jim Fisher
	Maine Green Independent Party
	ME Assn. of Planners
	MMA
	MMA
	Steve Levy - Maine Rural Water Association
	Perhaps a current staff member or former officer of MESDA
	safety related groups (police, fire, health)
	State organizations
	executive director of either Maine Association of Realtors or President of the Maine Real Estate and Development Association
Miscellaneous	
	Librarians
	Public Safety advocates
	Surveyors
	Visionaries have risen and fallen through my 20 years of GIS experience in state gov't It might come from a Legislator, a Gov, or an Executive
Don't Know	(There were 90 “Don’t Know” responses)

Survey Appendix II – Implementable GeoLibrary Board Actions

Suggestions for Implementable Actions The GeoLibrary Board Can Take in the Next 12 Months

Theme	Suggestion
Application	A web-based application like Riverside, CA site, supping both parcel and address/lots lines
Application	Ease of use
Application	Ease of use
Application	Ease of use
Application	statewide server applications and analysis to support town use of GIS
Application	Investigate development of a "build-out" tool with online access to assist municipalities with comprehensive planning
Campaign	Send out information to local governments encouraging them to digitize their land records, and give support information on how to implement that at the local level
Campaign	A campaign to stoke GIS interest
Campaign	bills before the state legislature for funding sources
Campaign	Coordinate a meeting between the Governor and state GIS stakeholders to discuss the importance of GIS to Maine's future
Campaign	develop a political arm - need to reach out to legislators and senior executives
Campaign	Develop educational and "marketing" materials to foster political champions (tailor different products to different user groups)
Campaign	Find executive sponsor and create a "GIS campaign" to educate management of the usefulness
Campaign	Have each Board member solicit support from 1 state legislator
Campaign	Identify useful success stories (cases where MEGIS data helped solve problems and save money)
Campaign	Road show - GIS promotion - use contracted presenters
Campaign	Geo-businesses should be encouraged to exist in the state of Maine
Campaign	A easy to read explanation of the type and value of benefits available through GIS use
Campaign	Take a hard (real $'s) look at the economic benefits of statewide GIS (What's it worth and who benefits?).
Communication	As best as possible organize regional meeting for all areas of the state not just the urban areas

Communication	Communicate how GIS can streamline and save money for most agencies
Communication	Continue to communicate with GIS users via meetings, list serve, blog, FAQ
Communication	Disseminate this information.
Communication	Results of this survey/ hold information-gathering meeting with key community members
Communication	update the GeoLibrary board meeting minutes on the web site
Communication	A state-wide LISTSERV for GIS users
Communication	make work plan available for inspection and comments
Coordination	Collaborate with State Library staff for role that libraries may play
Coordination	coordinate some with GoMOOS
Coordination	coordinate some with Maine Dep. of Marine Resources
Coordination	Coordinated 911 mapping for first responders
Coordination	coordination efforts between municipalities & state government
Coordination	Dissolve the Office of IT and put the GIS personnel back in their original departments.
Coordination	Encourage municipal participation
Coordination	federal seat on GeoLibrary Board
Coordination	Foster greater participation from municipal RPCs/COGs
Coordination	Fostering cooperation between different GIS providers
Coordination	Outreach to potential community and or municipal users
Coordination	Review cost and compatibility issues to Maine GIS users.
Coordination	Way of connecting people desiring GIS services with GIS professionals
Coordination	describe duties and responsibilities of all parties involved
Coordination	Partnering with University's to provide R&D and community services for low cost
Coordination	provide procurement support
Coordination	Provide assistance for community parcel mapping efforts
Data	A plan to make accessible latest data sets from different govt. agencies
Data	Agency specialization to provide specific kinds GIS data that all other agencies can use
Data	Availability to other Town's shape files
Data	better support in providing automated data updates and backups
Data	Comprehensive list of state agency data
Data	Consider integration with DHS/USGS/NGA HSIP Freedom Initiative

Data	Continued enhancement of data catalog application at megis.maine.gov/catalog
Data	Coordinate with State agencies cooperative models for data updates and access.
Data	Coordinate lidar collection and availability
Data	coordinate with organizations & agencies that maintain state data: i.e. Maine Municipal Assoc, ME Fire Chiefs, Maine EMS
Data	Create an integrated state topo map that does not have gaps between the quad maps
Data	development / revision of standards for "public" vs. "confidential" government held spatial data
Data	development of streamlined process to publish "public" datasets that are currently "non-public" but are not "confidential"
Data	Downloadable versions of the Unorganized Territories parcel mapping
Data	encourage or require state agencies to share information, even if generalized for confidentiality
Data	Improve coordination with federal and state data collection efforts to identify piggy-back opportunities for data collection
Data	Integrate MEGIS hydro data with USGS NHD
Data	Integration of color digital orthophotos with parcel mapping.
Data	Inventory GIS data state agencies maintain and publish to ME GIS users
Data	Investigate integration of NHD and WBD datasets into single model to improve communication and cooperation of water quality agencies and land use planning agencies.
Data	List of target GIS data to gather and rough timeline for implementation
Data	Parcel data plan
Data	Parcel data would be very useful for us, and would like to see this as a priority, esp. in larger communities.
Data	Provide clearinghouse for LIDAR data collected in Maine.
Data	put LURC parcel data on the MEGISs website
Data	shared data: who has what and how do I get it
Data	State-wide list of GIS data already available from state and local governments
Data	thorough inventory of non-public, non-confidential spatial data held at state agencies and coordinate clean-up and release of additional state-held spatial datasets
Data	updated data
Data	Work with state agencies to improve access to information needed by municipalities

Data	Identify data needs and implement data procurement policy and plan
Data	ALLOW TOWNS WITH GIS CAPABILITY TO PROVIDE DIGITAL UPDATES TO E-911 ROAD FEATURES
Data	Better "quality" of e911 roads data published. More complete road names & address ranges.
Data	Better accuracy of E911 Road Center Lines and Road Names
Data	Gain funding for creating one road network (grants or legislature)
Data	Add local data to web mapping, and ensure local ability to provide GeoLibrary with updated data when acquired.
Data	A recreation inventory statewide; trails both mechanized and non-mechanized, campsites and campgrounds
Data	Accurate parcel mapping for the City of Bangor.
Data	better support with converting ArcMap data to KML files
Data	continue digitizing municipal tax maps
Data	develop plan to collect and unify existing cadastral data as a demonstration
Data	Downloadable versions MDOT geodetic control in shape file format
Data	establish a program to digitize (and update) parcels standardized to enable linking of other info
Data	Establish stewardship plan for NHD24 (ownership, error trapping, update cycle)
Data	Find & distribute funding to help rural towns digitize parcel maps
Data	fund community upgrades of parcel data
Data	Geo-code state data
Data	Geocoding service plan
Data	Get soils, plant species, animal species and every other GIS file on your server and more easily accessible.
Data	Get statewide LIDAR
Data	high resolution terrain data statewide - develop a plan for acquisition and funding
Data	keep statewide land cover up to date
Data	KML/KMZ clearinghouse for Maine
Data	Layer of all fire hydrants, either by town or county.
Data	make KML files available to the public
Data	Make state data user friendly to local governments. See above
Data	Ongoing updates of parcel data
Data	Provide incentives or mandates to make existing data sets available for non commercial uses
Data	Provide index of GIS layers available with preview option and description of layer
Data	provide ownership attributes in parcel data

Data	provide ownership attributes in parcel data
Data	provide ownership attributes in parcel data
Data	Provide state-wide parcel information
Data	Pursue new digital elevation data
Data	Smaller Data Sets
Data	Smaller Data Sets
Data	Standards for parcel data
Data	state law requiring coordinates on newly surveyed parcels (with error estimates)
Data	Universal Land Use Codes
Data	up to date conservation lands GIS database
Data	Update GeoLibrary layer data
Data	Zoning delineations
Data	Added option to purchase by township /range
Education/Training	Act as educational and research center for continued GIS expansion
Education/Training	Add training tools in addition to white papers
Education/Training	Assist with on-going assessment of educational needs
Education/Training	Board Sponsored ESRI Instructor-led training on ArcGIS fundamentals we can send staff to
Education/Training	Courses for municipal employees at reasonable rates so training and education can be a reality.
Education/Training	Distinguish between support for advanced users and occasional (Arc Reader-type) users; advanced materials are intimidating to those who need to use the data and tools for conceptual and planning purposes
Education/Training	Educational opportunities to explore low and no cost GIS platform solutions for municipalities
Education/Training	Geography & GIS classes should be required at the high school level - If Facebook is getting a location component isn't it time?
Education/Training	GIS starter kit
Education/Training	integration of GI into school curriculum
Education/Training	More Training
Education/Training	More Training open to Business, not just Towns or State Agencies
Education/Training	Provide training
Education/Training	provide training materials and a list of training opportunities
Education/Training	Provide training or self-educational materials (i.e. GIS starter kits) for geospatial technologies
Education/Training	Provide training to different communities north of Bangor
Education/Training	Provide user friendly education to working municipal officials on the application of GIS technology.
Education/Training	set up forum to allow users to share experiences/ask questions
Education/Training	Somehow host workshops to help people/organizations develop and enhance "spatial skills".

Education/Training	support: how do I do xyz, who has done it before, how well does it work
Education/Training	Training
Education/Training	Training
Education/Training	Training
Education/Training	Training at reduced cost
Education/Training	Training for municipal employees submitting new E-911 data.
Education/Training	training opportunities
Education/Training	workshops on data content and services
Education/Training	would like to have training on how to do tax mapping using GIS for small municipalities with volunteers and limited funding
Education/Training	A bulletin board service for 'lessons learned'
Funding	new round of digital parcel grants
Funding	Sources of on-going funding for towns to develop & update GIS data
Funding	Sources of perpetual funding for towns to keep GIS data updated
Funding	strategy for funding data updates
Funding	plan and matching funds (i.e., partnerships) for ongoing statewide orthoimagery
Funding	Direct money to regional planning agencies - which could then provide more affordable GIS assistance to their member towns.
Funding	Identified, consistent, recurring funding for the GeoLibrary Board
Funding	Set up a grants program for communities to advertise and promote the service or to attend trainings
Funding	Stop spending money on anything else
Funding	Plan for funding
Help Desk	coordinate a statewide GIS help system
Help Desk	General help so people know where to turn when they have an issue
Help Desk	help desk
Help Desk	Help with Data Management
ILRIS	Plan for land records data
ILRIS	Tax map data created and updated systematically across the state.
ILRIS	Title data and
ILRIS	Work with municipalities to standardize cadastral data
ILRIS	Work with towns even more to ensure accurate tax information
ILRIS	An implementable Plan to get funds for development of ILRS
ILRIS	Begin the process of providing integrated land records
ILRIS	implement first stage of integrated land records information system
ILRIS	Infrastructure in place to have a State Land Records Office

ILRIS	integrate land records
ILRIS	integrated land records
ILRIS	integrated tax parcel mapping and
ILRIS	land ownership data
ILRIS	Land Records
ILRIS	land records integration
ILRIS	Land Records Pilot - real system with blanket parcels linked to assessing and deeds in one county
ILRIS	land records, tax maps in GIS
ILRIS	Make the first step (Parcel map)
ILRIS	Using current data create an integrated land use records information website
ILRIS	The integrated land records info system would be a monumental step forward (even if it's only a plan)
Imagery	Aerial imagery of the entire state needs to be collected - not just southern Maine - at least 1 meter per pixel
Imagery	Come up with a plan for orthophoto updates on an annual basis
Imagery	Continue orthophoto work. Huge benefit for us.
Imagery	coordinated updates to orthophotography
Imagery	Develop a clear system of providing digital orthoimagery for the state - calendar of which areas are to be completed first, second, third and how local agencies can provide resources for higher quality imagery
Imagery	Distribute new aerial photography data
Imagery	complete last round of digital orthoimagery and schedule the next one
Imagery	Expand aerial photography of the State
Imagery	finish updating orthophotos for the remainder of the state
Imagery	Identify mechanism to keep aerial photo information fresh
Imagery	I'm still waiting to see the ortho photos we were promised for Hancock County years ago!
Imagery	Keep your maps up-to-date: you have 2001 ortho data, we have 2006
Imagery	Long term plan for updated orthoimagery
Imagery	Make the new, hi-res orthoimagery available for Washington County
Imagery	Need updated aerial photography for downeast Maine
Imagery	plan recurring ortho updates statewide, work on funding in legislature
Imagery	Plan to secure funding for imagery updates
Imagery	Publish remaining orthoimagery that has already been purchased
Imagery	Regular interval, high-resolution imagery
Imagery	Release the rest of the orthophotography for the state
Imagery	Update existing aerial photography of the State
Imagery	Update orthoimagery

Imagery	update orthoimagery and make more accessible via indexed CD's (don't rely on DSL)
Imagery	Updated Aerial Photos
Imagery	updated digital orthoimagery process on rotating basis
Planning	2-5 year plan for coordinated action
Planning	a strategic plan for moving forward
Planning	Compile list of 3-5 achievable goals based on above outreach
Planning	Implement top priorities identified in survey question 7.
Planning	Plan
Planning	Prioritize attainable goals
Planning	Get realistic estimates of what it would cost to implement.
Portal	Data Registration Campaign to Jump Start the GeoPortal
Portal	A well-utilized geo-portal
Portal	Fully functioning Portal
Portal	Geo Data Portal
Portal	GeoPortal
Portal	GIS Portal to be a priority
Portal	Portal go live and promotion - data sweep across all state agencies for starters, then invite towns and others to register data and provide help to do so
Portal	Provide support for the development of a spatial data warehouse for Maine
Portal	Working portal for GIS metadata
Regional Centers	a plan for additional support of regional centers
Regional Centers	A pool of GIS people to help get the job done, maybe it's a service center I don't know
Regional Centers	A regional or possibly county based GIS, services offered to municipalities and counties
Regional Centers	definition and identification of regional service centers - counties or RPCs, etc.
Regional Centers	Develop funding mechanism to provide GIS services at a regional level for municipal, conservation
Regional Centers	Establishment of a technical support center
Regional Centers	Establishment of technical support center
Regional Centers	Provide technical and informational resources for those who wish to start GIS such as w & ww utilities
Regional Centers	shared GIS services
Regional Centers	support regional service centers
Regional Centers	technical support
Software	cost / effective delivery of GIS software
Software	Deploy a universally used type of software i.e. Tiger (CENSUS DATA) software for all common town work i.e. Police fire / Public Works / Planning/ Accessing
Software	Encourage Open Source software and standards.

Software	Microsoft office has great concept many different programs with similar menus and icon feel. We need Microsoft Office software developers to build a GIS product to works with Microsoft office product that all towns currently use.
Software	Software at reduced cost for municipalities trying to start up the GIS programs.
Software	statewide software licensing available to many agencies, counties, and towns
Web Services	Better web presence for state GIS data
Web Services	Continue to enhance web mapping services for federal state and local data.
Web Services	further develop the current web mapping service to include municipal data
Web Services	Manage online data for local governments
Web Services	Online Access
Web Services	Provide web mapping services for local and statewide data.
Web Services	Web based data
Web Services	Web based orthophoto and parcel mapping for Bangor.
Web Services	Web Map Services
Web Services	Web mapping services
Web Services	web services
Web Services	With added aerial views - http://www3.tlma.co.riverside.ca.us/pa/rclis/viewer.htm

Note - There 60 "No Opinion" responses given as well.

Survey Appendix III – Other Uses of Parcel Data

"Other" Uses of Parcel Data

Category	Suggestion
Abbutting	conservation easement management, adjacent lands/abuttor issues
Abbutting	identifying property owners and contact information in the event of a pollution problem found on that property
Abbutting	Mailing lists for project notices.
Asset Mgt	Asset Management
Asset Mgt	facilities management
Asset Mgt	KWD serves about 9,000 customers in 5 towns (2 counties). All of those underground services cross parcels lines, and current addressing are important to us.
Asset Mgt	Mapping of our systems
Econ. Dev.	Community and Economic Development
Education	Research and teaching
Education	Teaching and Research
Education	Research
Emer. Mgt.	E9-1-1 Addressing in Unorganized Townships in Somerset county
Emer. Mgt.	E-911 UT Addressing
Emer. Mgt.	Emergency Response as needed
Emer. Mgt.	Public Safety, Homeland Security
Emer. Mgt.	E911 road addressing.
Emer. Mgt.	law/fire info
Environment	Environmental permitting.
Environment	environmental review, mapping our features to a landowner, parcel prioritization for conservation
Environment	surveys to identify potential public health threats associated with shellfish harvest
Environment	typically used for identifying land owners of some action - hazardous spill, cleanup, important habitat designation, etc.
Environment	Use them on site clean-up maps to help staff in decision making
Environment	water supply conservation and protection
Environment	Watershed analysis
Forestry	Forest Management
Forestry	Forestry Consulting and Planning
Imagery	Area identification for photogrammetric mapping
Land Use	General land use planning and code enforcement activities

Land Use	land use & historical research
Land Use	Land Use Planning
Land Use	land use planning
Land Use	Land use planning
Land Use	Land Use Planning, build out scenarios, policy development
Land Use	Land Use Planning, Zoning
Land Use	location of addresses, land use
Municipal	General Municipal Operations
Municipal	Multiple municipal services
Planning	comprehensive planning
Planning	community planning
Planning	community planning
Planning	Comprehensive Planning
Planning	conservation planning
Planning	conservation planning,
Planning	Conservation project planning and assessment
Planning	Master planning of water resources
Planning	Natural resource planning
Planning	Regional and comprehensive planning
Planning	Site planning of all kinds i.e. agriculture, wind/solar/tidal energy, wetlands, historical
Planning	Trail planning, comprehensive planning, other environmental planning
Planning	We digitize parcel maps for down east communities
Planning	Transportation
Planning	transportation planning
Real Estate	Rental status, other characteristics of housing (date built)
Regulation	Code Enforcement - Permitting Issues
Regulation	Discovering potential zoning or environmental overlays
Regulation	State regulatory requirements
Regulation	Zoning
Surveying	Aid to land surveying
Surveying	Boundary Surveying
Surveying	identifying approximate property boundaries (and owners) adjacent to client properties
Surveying	Numerous constituent requests for everything from "boundary lines" to development planning.
Miscellaneous	Customer records / locations
Miscellaneous	Historical record
Miscellaneous	ownership
Miscellaneous	all of the above - framework layer for the National Spatial Data Infrastructure
Miscellaneous	All of the above, and project planning (current and future).

Survey Appendix IV – Other Data Updating Needs

Suggestions of Other Data that Needs to be Updated

Data Type	Suggestions
Census	census data
Conservation Lands	conserved lands land ownership
Elevation	high-resolution terrain data statewide
Elevation	High Resolution Digital Terrain Model of the state
Elevation	Statewide or Countywide 24k contours
Elevation	how about raster like Elevations
Fire	MEFIRS data - Maine Fire Incident Reporting System (Joe Thomas & Richard Taylor, State Fire Marshal's Office) Maine Fire Burden data base (Richard Taylor, State Fire Marshal's Office) fire/EMA station location data and contact info in coordination with MM
Floodplain	Good digital floodplains (Statewide)
Floodplain	Updated FEMA Floodplain maps for all towns
Hydro	Improve and maintain NHD24 and make it the default hydro dataset for Maine.
Infrastructure	Latest information about all kinds of infrastructure and cultural features from different public agencies.
Infrastructure	New Data for Better Land Use Planning & Water Quality/Quantity Management: Wells public & private, Sewer & Septic Systems, Update USGS Streams and watershed to accuracy needed to analyze impact of impervious surface development on 2nd order stream watershed
Land Cover	time series of land cover data (classified in a consistent manner over time and with accuracy in important categories of our state (forests)
Land Cover	Updated and more detailed land cover information (which I know isn't necessarily vector data, but it could be).
Land Cover	Land cover
Marine	coastal and marine vector and raster data
Multiple	elevation point data perhaps from LIDAR to support 2, 4 or 5 foot contour generation, better delineation of water bodies that match orthos, terrain model data (break lines and points),MDOT geodetic control in shape file format, recent traffic count data
Multiple	Love to see a coordinated effort for LIDAR data collection, and I'm always interested in better ways to capture and maintain conservation lands data.
Multiple	Habitat data, census data other than from 2000
Multiple	wetlands, streams, roads
Multiple	land cover, wet lands
Multiple	elevation, transportation, hydrography, geodetic control, governmental units, structures, land cover, geographic names
Multiple	roads, public lands, parcels, zoning, DEM/LIDAR, hydro, utilities/transmission, other transportation such as rail and bike and trail
Multiple	parcels, building / infrastructure locations, higher resolution contours, watersheds, etc. from a LIDAR base, transmission lines that are rated at less than 115kV
Multiple	Conservation layers, natural resources information, zoning, etc.

Multiple	Locations of structures such as houses (point or footprint), more detailed and accurate wetlands delineations, raster to vector conversion of remote sensing data, detailed maps of light pollution.
Multiple	natural, political and infrastructure features
Multiple	Zoning, land use/land cover
Multiple	fire, police, EMS, schools, commonplaces, hospitals, etc.
Multiple	Road network, hydrography
Parcel	A state wide parcel coverage, with - town code, map, lot sub lot, and sub-sub lot. That would allow for land records, or geocoding, or just about any other info to be attached as user sees fit.
Parcel	Existing Survey Plans from Registry of Deeds, M.D.O.T., Land Surveyors, New Survey plans from those sources.
Parcel	MDOT right of way data, coordinates of newly surveyed parcel corners with error estimates, LURC parcel data
Parcel	Land records such as transfers (deeds) are important. I also feel that the Multiple Listing Service in Maine should be a part of this portal. An "Open" MLS policy needs to be adopted thereby providing current and accurate data to RE Brokers, Appraisers an
Parcel	Landowner information, Forest Certified Landowners, Conservation Land and type of conservation
Parcel	updated tax map information
Road	Road center lines that line up with aerial photos.
Roads	single roads layer
Roads	Roads for cartography (E911 layer for our area is incomplete and/or very messy with unnecessary lines, no filter for road type like USGS DLG data), building footprints
Roads	Integrated roads data - attribute E911 roads data to make it more user friendly.
Roads	roads other statewide features
Roads	ALLOW TOWNS WITH GIS CAPABILITY TO PROVIDE DIGITAL UPDATES TO E-911 ROAD FEATURES
Roads	Transportation
Roads	Combined E911 and MDOT Road Centerlines complete with secondary or private "woods" roads.
Roads	E-911 Roads, Structures with addresses (ideally as polygons, alternatively as points)
Roads	E911 & MEDOT
Roads	Common road center lines
Roads	accuracy of roads
Roads	Up to date road data
Roads	roads
Roads	Road Data (especially low grade roads in northern Maine)
Roads	Roads
State, Local	Data available now seems to be becoming more limited rather than more available. Continued updates and coordination with state agencies and localities is most important. Some state agencies aren't posting certain data within the GeoLibrary. BIG PROBLEM!
State, Local	Better access to state data. Encourage widespread geocoding of all state data.

State, Local	Ability to secure information from State Agencies - like the location of lead poisoned children by CT, the locations of DEP VRAP sites, and to know it is the latest information.
State, Local	Make state data ready to use for local governments. Even when the data is available, I need to hire a GIS professional to project it locally. Many local governments have invested serious funding to develop local data which is now used by the state and others
Utility	Utility location data.
Wood Mills	Active wood fiber mills (i.e. saw mills, chip plants, OSB mills, pulp & paper mills, etc.)
Zoning	all local zoning in common presentation format
Misc	Encourage town participation through tax incentives
Misc	All towns should be using the same software.
Misc	Remove the technical and financial barriers to using GIS
Misc	this section will not accept similar choices for each question
Misc	Make printing pictures and maps from MGIS easier to find and much easier to print. With so many other types of websites that make it easy to print FULL PAGE pictures, why does it so many twist and turns to get to printing a picture from MGIS?
Misc	None.

Appendix M – Regional Forum Reports

Regional Stakeholder Forums were held at: Auburn, Bangor, and South Portland while a State Agency Stakeholder Forum was held in Augusta. The purpose of these Forums was to gather information first hand from the geospatial community in Maine, provide information on the strategic planning process, and encourage participation in that process. Overall, approximately 130 individuals attended the stakeholder forums.

Appendix M includes reports on each of those Forums. They were distributed to the Forum participants as well the web site.

Information Gathering Forums + Meetings SUMMARY

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Forums to date:

Auburn	April 29
Augusta	April 30
Bangor	May 6
South Portland	May 7

Planned

Northern Maine Electronic Records Workshop	May 20
Maine Title Standards Meeting	May 21
Maine Revenue Service	June 13

Attendance:

Overall attendance to date (05/17) for forums amounts to approximately **140 stakeholders** representing:

- Federal government agencies
- State government agencies
- County deeds registries
- County emergency management agencies
- Municipal assessors and other officials
- Regional councils of government
- Non government agencies
- Commercial interests
- Educational interests
- Interested citizens

Findings Highlights to Date

A core set of issues and needs has become apparent throughout these forums. These include:

- Data
  - Better and more transparent access to data
  - More frequent and automatic notification of changes and updates
  - Easier services for generating and understanding metadata
  - Expansion of the parcel grants program
  - More frequent and accurate aerial imagery

- Training and Access

- Accessible services and/or staff dedicated to exposing data and services to novice users
- Specific training for underexposed stakeholders: deeds registries, legislators
- Dedicated regional service centers providing walk in services
- More educational programs for communities
- Development of more targeted and easy to use web applications

- Coordination and sharing
  - Better data sharing between state agencies
  - Better data sharing and consistency between municipalities and the LURC townships
  - Active efforts to collaborate between municipalities and counties around land records standardization
  - Fuller utilization of growing capabilities within the educational sector for data development and distribution
  - Standards development for additional layers – easements especially – to allow these to be collected and shared

- Communication
  - Better utilization of online resources to ask questions of the Maine GIS users community and get specific answers
  - More awareness of GeoLibrary activities
  - Fuller awareness of grant opportunities and grants that have been awarded
  - More complete ongoing awareness of regionalized land records data initiatives

- GIS Software and Support
  - Closer examination of enterprise/bulk licensing of commercial software to maximize access to functionality by greatest number of users
  - Better use of web-based mapping software and services (Google Earth, Maps, Microsoft Virtual Earth/Live Local) to distribute and access complex GIS data

Integrated Land Records System Specifics

- Moving toward a statewide system will primarily involve deeper collaboration between County Registries of Deeds and Municipal Assessors

- A unique parcel identifier, if effectively and dynamically integrated, would provide considerable benefits to multiple stakeholders in government and the private sector

- Serious concerns exist regarding parcel geometry data quality, especially at municipal boundaries and in less populated areas

- Privacy of landowner information is a concern, more intensely felt in the north than in the populated southern part of the state

- Benefits may be derived from leveraging existing high quality data resources at the Deeds Registries (primarily registered surveys) and integrating these more fully with GIS data

- Legislation to require electronic submittal of plans and surveys would present a significant opportunity for integration with the GIS community

- Funding opportunities based on permitting surcharges at the local level seem to offer more potential than transfer tax additions at the county level

- More fundamental integration of GIS data (parcels with wetlands, flood zones, shoreland zones, vernal pools, etc) will cement the utility of these data as a reference standard and improve quality and efficiency of permitting and regulation

Information Gathering Forum Notes
Auburn, Maine | April 29, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendance: There were 17 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The Forum began with introductions of the Sewall Team of Bruce Oswald of Oswald Associates and Rich Sutton of Reference Standard. The attendees were then asked to introduce themselves. Of the seventeen attendees, fourteen were from municipal government; two were from regional councils and one was a county Registry of Deeds. The attendees were asked how many knew of the Maine GeoLibrary Board. Only three of the group knew of the Board.

  Attendees were also notified about the new GeoLibrary List Serve and encouraged to sign up for it as a means to keep abreast of the latest GIS events in the state and to communicate with others in the GIS community. The city was thanked for providing the space and the refreshments for the Forum.

- **Background on Project**
  Bruce Oswald provided background on the GeoLibrary Board. He noted that it was established by an act of the Legislature in 2002 as a statewide network to organize, catalog and provide access to geographic information. He stated that its original funding had come through a $2.3 million bond issue which the Board had spent judiciously on the state clearinghouse, a statewide digital orthoimagery program (by matching $1.6 million in additional funding from the United States Geological Survey (USGS), $350 thousand on developing a state tax parcel standard and then providing grants to create and upgrade tax parcel data as well as many other things. In addition, he noted that the Board was working with various parties to establish a state GIS portal which would be live in the not too distant future. Lastly, he indicated that the Board represented a wide constituency from those in State and municipal government and regional councils to real estate, development, education, utilities, surveyors, GIS vendors and the State CIO.

  Mr. Oswald reported that the Board was a viable functioning organization, but, after 6 years, had nearly expended all the funds that it had been given and felt that it needed to step back and, with the help of the geospatial community in Maine, analyze Maine's statewide geospatial needs and develop plans for the future of GIS in Maine. He stated that the Board felt that these plans needed to include a path toward obtaining a sustainable funding source capable of meeting those needs. Lastly, he noted that the Board wished to develop a framework and functional specifications for integrating land records information in the state.

Mr. Oswald stated that the Board had applied for and received a matching grant from the USGS to update Maine's 2002 GIS strategic plan and design a statewide integrated land records system as part of the National States Geographic Information Council's (NSGIC) Fifty States Initiative. He noted that the project called for not only updating the strategic plan, but also bringing it into alignment with NSGIC's strategic criteria, and, in particular, focusing on: coordination of local governments, academia and the private sector; developing sustainable funding sources; and cultivating political champions to grow support for future geospatial initiatives.

He then provided the attendees with information on the blog site developed for gathering information and holding project discussion on the land records information system (http://maineplan.blogspot.com).

He noted that there was currently an on-line survey which the Sewall Team was using to gather project data at: http://www.surveymonkey.com/s.aspx?sm=mYgDWShUtJCExpX2cUAXGQ_3d_3d and encouraged all to spend a few minutes completing it. Lastly, he encouraged all to initiate a dialogue on the n*ew* Maine GIS List Serve at: GEOLIBRARY-L-request@LISTS.MAINE.EDU.

- **Purpose of Forum/Review of Approach**
  Bruce Oswald explained the purpose of the Forum with to inform the attendees on the details of the project and to gather their input on both the GIS strategic planning update and the development of an integrated land records information system for Maine. He went on to review the overall project approach with the attendees.

- **Strategic Planning**
  Bruce Oswald discussed the NSGIC coordinating criteria that the updated plan needed to aligned with. They included:
  - Strategic and business plans
  - A full-time paid GIS coordinator and staff
  - Clearly defined authority and responsibility for coordination
  - A relationship with the chief information officer
  - A political or executive champion is involved in coordination
  - A tie into national programs
  - An inter-governmental working environment free of "turf wars"
  - Sustainable funding mechanisms
  - Contracting authority and cost sharing mechanisms
  - Statewide coordination efforts that can be a conduit for federal initiatives

  He then provided examples of initiatives that coordination programs across the country had done. He also talked about how GIS champions are cultivated and sustainable funding sources are achieved.
  - **GIS Needs**
    Next, he asked the attendees to address their GIS needs. These included:
    - **Data**
      - There is a need better metadata or an easier way to find and access data from State, county and municipal governments. This could improve efficiency and lower costs.
      - The attendees made it clear that they felt much of the State data was not listed or just too hard to find. They stated that it was a problem just knowing what data was out there! In particular, they indicated that they:
        a. Don't know what data is available nor what to ask for.

b. Don't know when updates are available (i.e. accident data from DOT just seems to appear without any announcements to the user community). (This appeared to be a trend for much of the data.)

- Communities and State don't know what local data has been created.
- There is a need for an open dialogue between counties, municipals and State governments about what format that data is needed in.
- There is an overall need for much better data management.
- There is a need for collaborative data products which are developed to meet federal, state, regional, county and municipal needs
  a. Imagery – Imagery needs to be completed on a statewide basis every 3-5 years.

- Training/outreach to users
  - Because the technology is not easy to use, there is a significant need for training.
- Development of Applications (Potentially shared or administered jointly)
  - If technology isn't used on a regular basis, it is hard to maintain the ability to use it.
  - Need simple-to-use municipal applications (desktop and on-line)
  - Need applications that are incorporated into tool which is used daily
- Hard to find GIS people to hire
- Cost of software
  - The cost of software is an inhibitor to the use of the technology. It was suggested that there be regional storehouses of software & data.
- Improved Communication
  - There is a need to communicate much better. It was pointed out that a lot of folks around the state don't know how important an integrated land records information system is to the state and how it could improve government efficiencies, make it more responsive to business and citizens and lower overall costs for the state in the long term.
  - It was noted that previous studies by the Board provided little or no feedback to the participants. The attendees asked that the Board take note of this and make sure that they were informed as the project moved forward.
- Deed Standards
  - It was noted that there was a need for deed standards as there were currently no standards enforced on how they were written.
- Miscellaneous
  - It was noted that there was a need for consolidation of GIS efforts to lower overall costs and improve efficiencies. It was suggested that regional approaches to GIS along with Counties handling the assessing for the municipalities could be a potential solution.

- Important Actions
  - The attendees were asked what they felt the most important things that the Board could do. The indicated that the development of more collaborative data products such as imagery (which should be repeated every 3-5 years) was what they wanted.
- Situation Analysis

  The group then did a situation analysis of the GeoLibrary Board. The results are as follows:
  - Strengths
    - The previous development of state imagery was seen as a significant strength of the Board. The group noted that there was a need to continue with that on a regular basis as well as develop an updating process for other data.
  - Weaknesses
    - Communication/Marketing
      a. Most attendees in the room did not know about the Board.

b. A lot of folks across the state don't know the importance that an integrated land records information system is for the state.

- There was agreement that the lack of ease of use (and finding) of data and technology was a significant weakness. (If, at least, there was better access to more data at the state and local level, this could become a strength instead of a weakness.)
- The group wanted feedback on studies like this. On the last one, they never knew what happened to the results of the study.
- The group wanted standards for the folks that write the deeds.

- **Opportunities**
  - The Board needs to look for things of greater value for the public and implement them.
  - Take advantage of the push towards consolidation of government services by taking a regional approach to the development of GIS in communities that are lacking those capabilities.
  - Establish regional repositories of data, etc.
- **Threats**
  - Lack of funding to continue.
  - No champion.
  - Lack of publicity of what the Board does. People making choices on what to fund do not understand what the benefits that the Board brings to the state. The Board needs to educate the citizens on what it has and what it can do as do all GIS providers.
  - Fear of making too much information available to easily. (Invasion of the public's privacy.)

- **Potential political or executive champions**
  The group then provided the following list of potential political or executive champions that should be explored by the Board:
  - Emergency management (MEMA) at the state level
  - County emergency managers
  - Fire & Police Chiefs and Sheriff associations.
  - Realtors
  - Lawyers specializing in real estate transactions
- **Best sustainable funding sources for GIS in Maine**
  The group then provided the following list of potential funding sources that should be explored by the Board:
  - Property transfer fees – make counties responsible.
  - Building permit fees – do this at the local level.
  - It was noted that funds from surcharges were often funneled off by legislative and executive branch leaders.

- **Integrated Land Records Information System**
  Rich Sutton provided project background, identifying how the ILRIS activities fit into the overall Strategic Planning process and what the State's intentions are with improving land records management. There was brief review of the capture, integration, maintenance and distribution data components of the project, and discussion of whether privacy concerns are an issue that threatens the future of an integrated system.
  - **Issues and Observations:**
    - When presented with the question of why the current state of land records information is not more advanced, the options of privacy, tradition and no benefits were rejected and **cost** was determined to be the primary impediment.

- Diane Godin, Deeds Register of Somerset County, outlined areas where the transfer of data between municipalities, county and state suffers **inefficiencies** and technical impediments. These include issues relating to the Maine Revenue Service transfer Transfer Tax Declaration document and documents associated with subdivision registering
- Assessors from Lewiston outlined similar findings from the municipal perspective, voicing dissatisfaction with time delays in processing documents through MRS and incompleteness of information.

- **Questions about the ILRIS initiative:**
  Is there any identified **revenue source** at present to pay for this initiative? Is the State going to pay for it?
  - **Privacy** is a big concern. We need to have a way to limit the information that is used outside of the towns. If there are going to be commercial vendors coming in to collect the data and sell it for use on the web, we should be able to control this. How are we going to get **participation** from towns that don't even have digital parcel data of any kind yet? Some of these places aren't interested, and will actively resist this sort of an initiative. Can the data be made available through Google Earth or other **web based tools**?
    - When asked, most in the room identified themselves as active users of Google Earth with access to broadband internet
  - **Data quality**: What is being done about the actual condition of boundaries along municipal lines? There are big problems with the way parcels don't edge match accurately at town boundaries. Are there any plans underway to survey these lines properly? If there are examples of **best practices** that other states have established, we should be following these. Of course, Maine is probably unique in its needs in many ways, but we should modify what has worked elsewhere rather than reinventing the wheel. It seems like counties are more willing to work with towns (and vice versa) than has been the case in the past, but there will still likely be **resistance to collaboration**.
- **Questions the Cadastral Layer Should Answer:**
  - Can you generate an abutters list?
  - Does the owner get his tax bill mailed out of state?
  - Is the parcel in a flood zone?
  - What is the official land use code of the parcel? And of those around it?
  - Does the parcel have any easements associated with it?
  - Is the parcel in the Tree Growth program?
  - Is the parcel eligible for the Tree Growth program?
  - What is the tax history of the parcel?
  - Is the parcel a brownfield, or are their brownfields around it?

- **Conclusions:**
  While the group was small, it vigorously engaged each issue as it was brought forth. GIS needs were divided into data creation and maintenance. The primary needs mentioned were much better communication by the Board, better access to data and a methodology to alert users when new or updated data was posted, the development of a collaborative digital orthoimagery program, the need for training, and shared, regional software, applications and data. More than anything, this Forum demonstrated the need for the Board to have much better communications to its constituencies. The group also pointed out the need for the Board to demonstrate to non-GIS people around the state how GIS could solve significant problems or issues.

  Land Records issues were discussed by many members present, but focus shifted to discussion between county and municipal representatives during the later stages of the forum. As with the

Strategic session there were serious issues and concerns related to training and software availability, and cost of participation as at the forefront. While most of the participants saw genuine benefit in the prospect of dependable and current digital land records data over the entire state, there was not a general sense that a unified land records data set would be obtainable in the near future.

Attachment A – Forum Attendees

First Name	Last Name	Email Address
Renee	Bogart	rbogart@ci.auburn.me.us
Clif	Buuck	readfield.ceo@roadrunner.com
Clyde	Cavender	assessor@bowdoinme.com
Don	Craig	dcraig@avcog.org
Crystal	Dostie	crystal.dostie@augustamaine.gov
Chery	Dubois	cdubois@ci.auburn.me.us
Art	Dunlap	adunlap@polandtownoffice.org
Diane	Godin	diane.godin@somersertcounty-me.org
Joseph	Grube	jrube@ci.lewiston.me.us
Jessica	Hanscom	jhanscom@ci.auburn.me.us
Renee	LaChapelle	lachapelle@ci.auburn.me.us
Ryan	Leighton	rleighton@lisbonme.org
Amanda	Lessard	alessard@newgloucester.com
David	Sawyer	dgsawyer@town.windham.me.us
Karen	Scammon	kscammon@ci.auburn.me.us
Joan	Walton	jwalton@avcog.org
Jim	Ward	jward@ci.lewiston.me.us

Information Gathering Forum Notes
Augusta Maine | April 30, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendance: 35 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The Forum began with introductions of the Sewall Team of Bruce Oswald of Oswald Associates and Rich Sutton of Reference Standard. The attendees were then asked to introduce themselves and indicate how they currently used GIS or anticipated using it in the future. The attendees indicated a wide range of current and anticipated uses of GIS. Details of these uses by category are summarized in Attachment B.

  Attendees were also notified about the new GeoLibrary List Serve and encouraged to sign up for it as a means to keep abreast of the latest GIS events in the state and to communicate with others in the GIS community. Nancy Armentrout was thanked for making the arrangements for the space and providing the refreshments for the event.

  When asked about the GeoLibrary Board, less than 1/3 of the room was fully aware of what it was. Once again, this points out a major communication/marketing issue for the Board.

- **Background on Project**
  Bruce Oswald provided background on the GeoLibrary Board. He noted that it was established by an act of the Legislature in 2002 as a statewide network to organize, catalog and provide access to geographic information. He stated that its original funding had come through a $2.3 million bond issue which the Board had spent judiciously on the state clearinghouse, a statewide digital orthoimagery program (by matching $1.6 million in additional funding from the United States Geological Survey (USGS), $350 thousand on developing a state tax parcel standard and then providing grants to create and upgrade tax parcel data as well as many other things. In addition, he noted that the Board was working with various parties to establish a state GIS portal which would be live in the not too distant future. Lastly, he indicated that the Board represented a wide constituency from those in State and municipal government and regional councils to real estate, development, education, utilities, surveyors, GIS vendors and the State CIO.

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Lastly, he noted that the Board wished to develop a framework and functional specifications for integrating land records information in the state.

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- **Purpose of Forum/Review of Approach**
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- **Strategic Planning**
  Bruce Oswald discussed the NSGIC coordinating criteria that the updated plan needed to aligned with. They included:
  - Strategic and business plans
  - A full-time paid GIS coordinator and staff
  - Clearly defined authority and responsibility for coordination
  - A relationship with the chief information officer
  - A political or executive champion is involved in coordination
  - A tie into national programs
  - An inter-governmental working environment free of "turf wars"
  - Sustainable funding mechanisms
  - Contracting authority and cost sharing mechanisms
  - Statewide coordination efforts that can be a conduit for federal initiatives

  He then provided examples of initiatives that coordination programs across the country had done. He also talked about how GIS champions are cultivated and sustainable funding sources are achieved.
  - **GIS Needs**
    The attendees were asked to address their GIS needs. It was noted that it was important to document these needs as documented needs were more likely to be eligible for federal funding. It was also noted that the Sewall Team should look at the GIS portion of the Maine Management report on the ME web site as well as the Marine GIS Needs Assessment for additional input. The needs outlined included at the Forum included:

- **Data**
  - Imagery
    a. There was widespread acknowledgement of the need for timely updates (3 year cycle) and annual funding of a statewide imagery program.
    b. There was also a note that DOT flies a lot of imagery for its projects and don't get into the main data stream for others to use. There is a need for integration of that data.
    c. 1 meter resolution imagery was requested for forest lands and up to 6 inch resolution for more urban areas.
    d. The preference by the majority of the attendees was for "leaf off" imagery, but a couple requested "leaf on" as well.
    e. There was a request for better metadata with the imagery or a watermark in the imagery of date of flight.
    f. Easy access to data prior to 2000 for historical reference was requested.
    g. All imagery needs to be available through an ortho viewer and web services.
  - Land Use/Land Cover
    a. High resolution land use/land cover data was requested with regular updates.
    b. It was noted that an automated change detection tool was needed for change analysis.
    c. Forest cover type data (hardwood, softwood/mixed wood was specifically requested.
  - Road centerline data
    a. There is a need for a single road centerline dataset which covers both public and private roads across the state and merges state and municipal roads.
  - Soils Data
    a. There is a need for a complete, statewide soils layer.
  - Wetlands Data
    a. There is a need for high resolution wetlands data.
  - Impervious surface data
    a. The data was requested at less than 5 meter resolution.
    b. For watershed analysis, greater than 1 meter resolution was requested to capture roofs and driveways. This data would be used for change detection and non-point source analysis.
  - Conservation Easements
    a. There is a need for conservation easement data and monitoring.
  - Elevation Data
    a. Statewide, high resolution terrain data (2-4' contours)
    b. Need a continuous land to water model – high tide to low tide.
  - Regulated Resources Data
    a. A municipal level regulated resources map for both natural and built resources is needed.
  - General data comments
    a. There is a need for more standard data models.
- **Training**
  - More collaboration and mentoring within State government is needed on what can be done with GIS and using joint agency services.
  - Need training for non-techie's on what GIS can do to address their needs.
  - Need GIS user training.

        - Work with the University system folks to establish a program to train state, county and municipal workers through on-line/web based training courses.
    - Regional GIS Support
        - There is a need for regional GIS support for communities and others to gain access to GIS technology and data.
        - The concept is currently being used by Land Trusts along the coast in 3 or 4 service centers.
    - Software Interoperability
        - Assist in software interoperability issues and improve the use of attributes for various software products.
    - Coordination/Access/Data Sharing
        - There is a need for the development of a comprehensive data sharing framework.
        - There is a need for collaborative data maintenance to encourage data to be built correctly once with all edits captured and shared by many to reduce costs.
        - There needs to be improvement of data distribution with better access to data through the State server.
        - Health and Human Services needs access to address validation and cleaning and scrubbing applications for address location and geo coding in a secure environment.
        - Authentication and ID management is needed.
        - Creative ways to share data need to be explored.
    - Miscellaneous
        - A plan is needed for funding application development with federal funding.
        - There is a need for a disaster management and recovery plan for GIS.
        - Google Earth is being heavily used and has made GIS information available to managers and other non-GIS users. As a result, data should be published as KML as well as other more normal GIS file formats.

- Integrated Land Records Information System

  Rich Sutton provided some initial project background then solicited input from the attendees. The bulk of the remainder of the session was spent discussing these department-specific issues and questions.
    - Privacy concerns with private landowners at Maine Bureau of Parks and Lands (BPL); the point was made that data must be treated carefully as there are many cases where too easily accessed public data presents genuine risks. Obvious examples are natural heritage plant communities or archeological sites; we need to balance the benefit of public access to data with private sensitivities;
    - Status check on completion and status of digital land records as they currently exist: What percent of Maine towns currently have digital parcels? What pct of deeds registers?
        - According to best available records, approximately 750k parcels in state; somewhere over 50% of these are digital. Nearly all registry records are digital, though not truly geospatially enabled.
    - Level of effort required to undertake this effort and bring it to completion, even for subsets of the state, is overwhelming. Cost is the biggest reason that land records haven't been integrated yet.
    - Departmental Issues and Observations:

      Some state offices have longstanding relationships with land records data:
        - Department of Transportation, with a long standing and **continual needs** for land records, needs:
            - Ownership information abutting and adjoining roads

- To send notification letters quickly and efficiently
- To be able to easily access cadastral data to support surveying, appraisals, deeds, zoning and acquisitions

DOT parcels that have been used by different departments do not get warehoused and published in a standard or dependable way, so these data are typically not available for future purposes after their initial collection and use. Parcels need a **standard repository**.

DOT has talked with or considered working with large land records users like The Nature Conservancy for potential **synergistic opportunities** and cost sharing in geographic areas where common focus is being directed.

DOT suggests that this is not the first time that this problem has been addressed "this is the 3rd meeting we've had talking about this. Every time it breaks down into attribution" More energy needs to be directed toward a **focus on base mapping** geometry and basic parcel bounds with unique IDs.

- Natural Resource Agencies: Analyze and examine natural features. Do not look at the world through a parcel based prism, but need to know ownership associations through overlays with these natural feature layers. Users could use ownership information that is live and dynamic. Ideally it would be federated from different sources and rolled up for other use or distribution.

  The process for using digital parcel data currently involves going to towns get to tax maps and digitize and/or gather pieces from partners that already have fit large portions of it together. Areas may encompass 5 towns, 64,000 acre study areas down to a few acres. LURC data are frequently used as well. GeoLibrary data is typically reviewed first. Parcels are often digitized data over available orthophotos. Afterwards there may be sharing if qualified partners ask, but data isn't actively exposed or shared with towns because of quality issues.
- Department of Conservation: monitoring rare plants, establishing and tracking areas of highest priority; DOC aggregates and compiles parcels where these are available; has spent a great deal of time digitizing unavailable areas as needed; much project–based, area specific digitizing is undertaken. Frequently this encompasses multiple towns, since natural resources don't respect political boundaries; data assembled for these efforts doesn't get stockpiled or warehoused in a way that makes it easily available later in DOC or to others; it gets "orphaned." DOC uses LURC data frequently, believes that this may serve as partial model for bigger system;

  Conservation land changes move too fast and are too complex. It is important to know what ROWs and restrictions exist for individual pieces of land. Transactions are all happening at accelerated speeds. Properties are owned in both fee and easement. There are currently all sorts of easements and ROWs layered over the top of parcel ownership. To properly understand the land records all of these **pieces must be integrated**.
- DEP sees great value in site ownership information. Having ownership history is very important for site clean ups and PRPs (potentially responsible parties). Sleuthing out this data is often very difficult and time consuming.

  One of the great problems DEP finds with land records data is that it does not match detailed spatial site data (such as that collected with sub-meter GPS); accuracy tends to be

poor and inconsistent; It will be very useful going forward if any solution can be developed that integrates accurate line work AND attribute data consistency. Presently DEP often ignores available digital parcel data due to problems with **data quality and consistency**

- **Additional Observations**
  - There needs to be a **key property identifier**, unique and recognized both by the towns (assessors) and the counties (deeds registries)
  - State licensing collects data that can get rolled up - underground tanks, eating establishments, etc.; efforts should be made to use these data to supplement the value and quality of parcels
  - Users don't want to go after data case by case every time; there needs to be a **warehousing or stockpiling** of property data so it can get re-used and is not orphaned
  - There should be a list of all data resources – a **portal** – where data can be discovered by name and location (especially if the specific technical names aren't known)
  - Better mechanisms should be in place to compel agencies to **data share** and make collected resources available outside the collection agency
  - Older data cadastral data should be **archived according to state standards**; we need to be able to look back at earlier versions and see how things looked
  - There is a big difference between the quantity of MEGIS data held and distributed and all of the data that resides in other agencies around the state. Probably (C. Kroot) there is more data in individual agencies that is NOT cataloged and available for public review (through MEGIS) than there is in it. There is too much **orphaned data**
  - Questions must be resolved about **freedom of access** requests against current vs. archived data: is a data layer that was restricted while "live" unrestricted once it has been archived?
  - The federal minimum **standards** that must be met to be favorably received and reviewed by federal grant making bodies must be well understood and complied with. We should be more aware (as a group) of what these are.
  - **Outreach** should be undertaken in the form of training presentations around the state
  - Especially for DECD (economic development), Natural Resources Council and SPO (state planning), efforts should be made to find **drivers and champions** for progressing on land records data (and for Maine geospatial initiatives in general)

- **Questions/Comments about the ILRIS Initiative:**
  - What depth of data from municipal assessors is anticipated? Will this include land use? Tree Growth program parcels?
    (Sutton): the details of that relationship are not presently known. That is a level of detail that the functional specification will need to formalize.
  - Property (deed) history and restrictions are essential. Title searches from inside a GIS would be very useful.
    (Sutton + others): Deeds will need legal interpretation – even if all of the digital information can be made readily available, the process of extracting legal dimensions and definitions can't be fully automated.

        - Even though it introduces many more variables than simple chain of title search, the process of moving from the parcel to deeds records needs to be made easier.

    - Privacy must be considered – all information available at the towns shouldn't be accessible by everyone
      (Sutton): Comments on attribute attrition – where privacy concerns diminish as data rolls upstream and attributes filter off. The federal cadastral standard actually stipulates a very restricted set of attributes at the federal level.
    - Will there be statewide parcel coverage?
      (Sutton) Ultimately yes, that is the plan, though the specifics are not determined. Those are the domain of this effort
- Questions the Cadastral Layer Should Answer:
    - What forest certification does a parcel fall under?
    - What year was a lot created?
    - What are the shape and size of a particular parcel?
    - Does parcel have access to municipal water and sewer? Electricity?
    - Is parcel in a flood zone? Deeryard? Endangered species?
    - Is the property in Tree Growth or under some other easement or certification?
    - What are value impacts?
    - Is the owner onsite?
    - What is the history of ownership?
    - What is the relationship with neighboring parcels?
    - What is the quality of the data (geometry and attributes)?

- Forum Conclusions
  The group was extremely open and engaging and knowledgeable on GIS and the issues surrounding it. There was also a varied representation of types of GIS users and non-users who desire GIS provided information. DEP reported having over 200 users and a wide variation of GIS uses. Current uses of GIS varied from environmental and forest management to asset management, planning, disease control, emergency management, flood management, regulation/permitting and comprehensive planning. There was significant interest in establishing such an integrated land records information system by many agencies to assist them in their work and reduce the resources needed and time spent in obtaining similar data on an individual basis from municipalities across the state by multiple agencies. While continually updated digital orthoimagery and road centerline data seemed to be among the most popular data needs, there were several others that were highlighted as well including elevation data and land use/land cover data. Improvement in data sharing through the establishment of a better framework was a common theme both for data access and efficient updating and distribution of that data. Training needs were outlined as being both technical for users and non-technical for others to increase the knowledge of GIS capabilities to resolve issues for others. Lastly, it was noted that there is an increasing trend for the need for and use of geographical information by non-technical users in an easy to use Google Earth format.

  As with the previous Forum in Auburn, it remains clear that the Board needs to do a much better job in its outreach and timeliness of communication across the state. While this group had a much better understanding of the Board, there were still a significant number of folks in the group that didn't know about it.

Regarding land records integration and systematization, there is widespread support and enthusiasm, but also a common belief that privacy concerns are a wildcard and that an integrated lands record system for the entire state will be difficult to build and maintain. Many attendees and stakeholders have specific ideas about what they would like to get from such a system (i.e., ownership information and history) and have been frustrated in the past in efforts to access these features. Useful new ground was covered in areas of archived data and privacy specifics applicable to it, interagency data sharing and acceptable quality of content for specific roles and uses.

Attachment A – Forum Attendees

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Attachment B – Reported Uses of GIS by the Attendees

The attendees were asked to outline what they currently use GIS for and/or what would they like to use it for. The following represents a summary of those comments.

DOT Use: Parcel evaluation, property title work, surveying, asset management, major transportation projects to minimize field work, etc.; end user maps, urban mapping, project development, Transport infrastructure management, evaluating bridges, etc

Health & Human Services Use: Tracking disease, general public health issues, demographics, locations of public water supplies/required buffers, etc.

Geologic Survey Use: Ground water analysis, snow pack analysis, coastal changes/hazards

Dept of Marine Resources Use: Fisheries management

Department of Environmental Protection Use: Regulatory functions, modeling pollution source impact on air and receptor and general air monitoring

Dept of Conservation Use: Mapping rare plant habitats, environmental impact analysis, forest management, conservation planning

State Planning Office Use: Planning applications for the coastal program and applications for comprehensive planning for the land use program, open space planning,

State Archives Use: Retention of GIS data

MEGIS Use: Provides comprehensive GIS services for State agencies

Maine Revenue Service Use: Mapping and valuation of LURC parcels

Maine Forest Service Use: Mapping fires, insects and disease in forest lands

Bureau of Parks and Lands Use: Park and land management of over 1,000,000 acres, permits for marine structures, site and state planning for forest management and recreation

Information Gathering Forum Notes
Bangor, Maine | May 6, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendees: There were 46 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions (Team & audience)**
  The Forum began with introductions of the Sewall Team of Bruce Oswald of Oswald Associates and Rich Sutton of Reference Standard. The attendees were then asked to introduce themselves and indicate how they currently used GIS or anticipated using it in the future. The attendees indicated a wide range of current and anticipated uses of GIS. It was apparent from the group's input that GIS was currently or would be a technology that would be deeply imbedded in the workflow of both public and private sector operations in organizations throughout the state of Maine. Details of these uses by category are summarized in Attachment B.

  Attendees were also notified about the new GeoLibrary List Serve and encouraged to sign up for it as a means to keep abreast of the latest GIS events in the state and to communicate with others in the GIS community. Bill Hanson (Rudman & Winchell), chair of the GeoLibrary Board, was thanked for making the arrangements for the space and providing the refreshments for the event.

- **Background on Project**
  Bruce Oswald provided background on the GeoLibrary Board. He noted that it was established by an act of the Legislature in 2002 as a statewide network to organize, catalog and provide access to geographic information. He stated that its original funding had come through a $2.3 million bond issue which the Board had spent judiciously on the state clearinghouse, a statewide digital orthoimagery program (by matching $1.6 million in additional funding from the United States Geological Survey (USGS), $350 thousand on developing a state tax parcel standard and then providing grants to create and upgrade tax parcel data as well as many other things. In addition, he noted that the Board was working with various parties to establish a state GIS portal which would be live in the not too distant future. Lastly, he indicated that the Board represented a wide constituency from those in State and municipal government and regional councils to real estate, development, education, utilities, surveyors, GIS vendors and the State CIO.

  Mr. Oswald reported that the Board was a viable functioning organization, but, after 6 years, had nearly expended all the funds that it had been given and felt that it needed to step back and, with the help of the geospatial community in Maine, analyze Maine's statewide geospatial needs and develop plans for the future of GIS in Maine. He stated that the Board felt that these plans needed to include a path toward obtaining a sustainable funding source capable of meeting those needs. Lastly, he noted that the Board wished to develop a framework and functional specifications for integrating land records information in the state.

Mr. Oswald stated that the Board had applied for and received a matching grant from the USGS to update Maine's 2002 GIS strategic plan and design a statewide integrated land records system as part of the National States Geographic Information Council's (NSGIC) Fifty States Initiative. He noted that the project called for not only updating the strategic plan, but also bringing it into alignment with NSGIC's strategic criteria, and, in particular, focusing on: coordination of local governments, academia and the private sector; developing sustainable funding sources; and cultivating political champions to grow support for future geospatial initiatives.

He then provided the attendees with information on the blog site developed for gathering information and holding project discussion on the land records information system (http://maineplan.blogspot.com).

He noted that there was currently an on-line survey which the Sewall Team was using to gather project data at: http://www.surveymonkey.com/s.aspx?sm=mYgDWShUtJCExpX2cUAXGQ_3d_3d and encouraged all to spend a few minutes completing it. Lastly, he encouraged all to initiate a dialogue on the n*ew* Maine GIS List Serve at: GEOLIBRARY-L-request@LISTS.MAINE.EDU.

- **Purpose of Forum/Review of Approach**
  Bruce Oswald explained the purpose of the Forum with to inform the attendees on the details of the project and to gather their input on both the GIS strategic planning update and the development of an integrated land records information system for Maine. He went on to review the overall project approach with the attendees.

- **Strategic Planning**
  Bruce Oswald discussed the NSGIC coordinating criteria that the updated plan needed to aligned with. They included:
  - Strategic and business plans
  - A full-time paid GIS coordinator and staff
  - Clearly defined authority and responsibility for coordination
  - A relationship with the chief information officer
  - A political or executive champion is involved in coordination
  - A tie into national programs
  - An inter-governmental working environment free of "turf wars"
  - Sustainable funding mechanisms
  - Contracting authority and cost sharing mechanisms
  - Statewide coordination efforts that can be a conduit for federal initiatives

  He then provided examples of initiatives that coordination programs across the country had done. He also talked about how GIS champions are cultivated and sustainable funding sources are achieved.
  - **GIS Needs**
    Next, he asked the attendees to address their GIS needs. These included:
    - **Data**
      - Imagery
        a. There was widespread acknowledgement within the group that the state imagery needs to be updated on a regular basis (3-5 years is absolutely required).
        b. The current data is in 3 GB files which are extremely difficult to duplicate. The attendees made it clear that they would like it put into smaller datasets. They also

indicated the need for a better infrastructure to allow them to take better advantage of the data.

- Elevation data
  a. Higher resolution/more accurate Digital Elevation Model
  b. Need seamless, statewide 2' contours
- Road centerline data
  a. Road centerline data with addressing is needed for the state and must be maintained on a regular basis
  b. E911 road centerline files and DOT data must be made compatible
- Boundary data
  a. Accurate town boundaries (involve surveyors)
- Hydro data
  a. Stewardship is needed for the National Hydro Data
- General data comments
  a. Data is not listed and hard to find - There is a large volume of data that has been created and is not in the GeoLibrary (more than is currently in it)
  b. LURC data needs to be placed on the GeoLibrary website. It is currently available, but only after LURC is contacted directly
  c. More timely data is needed for utilities
  d. Attention needs to be paid to data for rural communities

- **Training**
  - An educational program is needed for communities starting up their GIS.
- **Development of simple-to-use shared applications**
  - Need easy to use/access GIS applications (desktop and on-line) that can be developed and shared for municipalities, counties and citizens
- **Coordination/Access/Data Sharing**
  - The Board needs to bridge the unincorporated towns and LURC with municipal data
  - The Board needs to develop and share tools (or at least provide a means to share tools)
  - Give feedback on data from users
  - Many municipal governments want to share data, but need an easy way to post their data that doesn't require significant efforts on their part and is easy to use. Currently, many spend time copying data to disks for distribution. If an easier system to post data were put in place, municipal governments could save resources. (Note – The requirement for metadata is inhibiting them sharing their data.)
  - Need a coordinated method to announce the releases of new or updated data.
- **Miscellaneous**
  - Not enough resources

- **Situation Analysis**

The group then did a situation analysis of the GeoLibrary Board. The results are as follows:

- **Strengths**
  - Breadth of representation
  - Statewide functionality plus its centralization of GIS
  - Enthusiasm
  - Dedication
  - Transparency/openness (the minutes of meetings are published albeit 6 months late in some cases)
- **Weaknesses**
  - Communication/Marketing

    a. The GeoLibrary Board communication is slow (i.e. website is too slow to be updated)
    b. There is a general lack of self promotion by the Board
  - The GeoLibrary Board doesn't have enough funds
  - Better representation
    a. There needs to be emergency management, county and industrial and forest land owners on the Board
    b. Surveyor representative is needed
    c. Getting volunteers to fill vacant seats on the Board
  - The GeoLibrary Board doesn't have the ability to directly provide services. It relies on a different organization to deliver products/services (MEGIS) which ends up in a balancing of the politics of the Board and the state
  - The Board needs to be more of an advocate for free, public information
  - The Board needs to offer training
  - The Board needs look at more private funding opportunities
- Opportunities
  - Wealth of professionals in the State
  - Interest in partnering by the Federal Government. This opportunity needs to be explored to acquired help to pay for data and other needs in Maine.
  - Great resources in Maine higher education (including the National Science Grant that Tora Johnson (Univ. of Maine at Machias) received for establishing GIS training centers)
  - The potential to do training on-line and teleconferencing of courses using college video conferencing capabilities
  - Ability to work collaboratively with active GIS user groups such as the Maine Geospatial Users Group on workshops, etc.
- Threats
  - No additional funding for the continuation of the Maine GeoLibrary Board.
  - A significant need to educate laypeople including elected officials, town, county and state managers across the state on how GIS can be used to solve their problems.
  - No political or executive champion.
  - There is a current perception that GIS is a specialty technology and not integrated into the other disciplines
  - The cost of the software significantly limits potential users from acquiring it. More emphasis needs to be placed on open source software.
  - Potential state regulation or licensure of the GIS profession.
  - Lack of knowledge of data limitations.

- Potential political or executive champions

  The group then provided the following list of potential political or executive champions that should be explored by the Board:
  - Maine Municipal Association (major stakeholders as well as data providers - they need to understand better what GIS can do for them.)
  - Maine County Commissioners Association (They are becoming much more receptive to and seem to be starting to understand the value of an integrated land records system for the State of Maine.) (There is a GIS users group forming in Somerset)
  - Maine Public Utilities Commission
  - Utilities (Water, Power, Telecommunications)
  - Registry of Deeds
  - Real Estate Industry
  - Legislature

- Land Trusts, Land Conservancies and other similar Not-For-Profits
- Forestry - Cooperative Forestry Research Unit
- Higher Education

- **What do you believe are the best sustainable funding sources for GIS in Maine?**
  The group then provided the following list of potential funding sources that should be explored by the Board:
  - Cigarette Tax
  - Subscription fees
  - Surcharge on the recording of deeds
  - State funding (It needs to be made clear that GIS is a base component for the cost of doing business in Maine by every government organization as well as many private sector companies. As a result, funding must be supported by State funds and be embedded in the State Budget.)
  - Permitting fees such as the Town of Wells (York) has
  - Cooperative system
  - National Consortium for Rural GIS Solutions
  - State departmental fee based
  - State or regional subscription
  - Department of Homeland Security funding
  - The Board needs look at more private funding opportunities

- **Integrated Land Records Information System**
  Rich Sutton provided project background, outlining the State's intention for developing an integrated land records system and how it relates to the overall Strategic Planning process. He discussed the basic steps for development of the report and presented a quote stating that "the land transfer process in North America is founded on the principle of publicity … and that all information pertaining to a legal parcel of land must be available for public inspection." This initiated a sustained discussion about privacy and land records.
  - **Issues and Observations:**
    - It is important to define exactly what sort of information will be aggregated and published. **Privacy** needs to be respected in certain cases. Opening everything up to everyone is not a sound idea; public records – relating to property information – can be too accessible.
    - **Access** and **privacy** are questions of degrees: Vocational, professional users of data need access to more detail than the general public.
    - The concept of attribute attrition permits greater quality and quantity of descriptive information to attach to the parcel boundaries at the municipal level where it is collected and is of most critical use. This preserves **privacy** while giving specific classes of users what they need. As the data are aggregated into ever greater collections at regional/county, state and ultimately federal levels, the attribute needs diminish. (Sutton)
    - **Privacy** in practice: in the 5 years that all assessing data has been available for Bar Harbor there has only been one complaint – a single case where an owner has requested that his data be taken down (his data was removed). This indicates that privacy may not be the problem people anticipate it to be.
    - **Resistance:** Some towns will actively oppose this as another mandate, another state function being imposed on them. This will be especially true if it comes down as another unfunded mandate.
    - Just because we can (build a statewide integrated land records system), does that mean we should? Or we have to?

- There are big differences in parcel data **accuracy** between survey level data, where metes and bounds dimensions are accurate and certified to inches, and assessing (or even regional planning) level parcel data, where the shapes and proportions, as well as locations over imagery and relationships to other GIS data, are proportionally correct. The ILRIS initiative really addresses the second category, but works perfectly well, and is built to scale seamlessly, to the first. (Sutton)
- There needs to be attention paid to edge matching issues at town boundaries. Even if the parcels for a municipality are perfectly digitized, there always seem to be **data quality** problems at the borders. (There was a town boundaries committee: Kevin Riley at DOT, Ellen Jackson at LURC (present at this meeting); the layer is being edited and managed and updates are welcomed; presently lacks adequate metadata.)
- There seems to be a good justification for adopting a **unique parcel ID** in deeds. If the same identifier can be used in both municipalities and in registries it will also get adopted by other systems in many places. The biggest hurdle is that every town has its own numbering system, developed without consideration of neighbors (or the overall state). Maine Revenue Service may be the place to start for coding this statewide.
- Some codes to consider:
  - Natural areas codes (see http://www.nacgeo.com/)
  - Federal FIPS codes
  - GEO ID (based on x, y coordinates)
- Canadians have province-wide coding and parcel data; are there **best practices** examples there we should be following?
- Is it realistic that we can get towns and counties **collaborate** to put this sort of system in place? We weren't able to make it happen with 911 roads.
  - Turf battles of that sort shouldn't be the reason this initiative fails. There's no excuse for that
  - On the other hand, we're talking about a huge amount of land and a lot of jurisdictions; it's inevitable that disagreements are going to arise in at least some places
  - On the 911 effort, privacy trumped emergency response needs in at least some towns. How is this possible?
- From the small town perspective, lots of things are happening on the cooperative, **regionalization** front that previously we thought couldn't be done. With schools funded out of property taxes and costs spiraling up so quickly, basic functions like assessing are going to get squeezed if they aren't already. There is going to be pressure to handle these things in a more efficient way. Maybe regionally through the counties. It is going to be economic drivers that make this happen.
- There are many reasons why towns won't **collaborate** and cooperate with counties on something like assessing. Counties do things like holding their budget meetings two weeks before Christmas. It seems like they do this specifically to keep the towns away.
- Students in colleges and other **educational** institutions can be effective digitizers: In Washington County Tora Johnson is working with numerous towns to accelerate digitization of the cadastre. Towns are way behind but are thankful to see meaningful progress through these automation efforts. Reaction to this from the privacy and resistance fronts has been very positive.
- Any business cases that are developed to facilitate creation of an integrated system MUST address **local needs**. Any system built without addressing local needs is a non starter.

- Another coming business driver is that there is almost nobody left who can draft parcel maps using traditional ink and mylar methods. Everyone will need to go digital whether

they like it or not. And the ones who have waited longest will benefit by **jumping intermediate technology** right to most modern practices and tools.

- There should be a way to **monetize** a statewide integrated parcel system. It should be able to sustain itself (or at least recover significant costs) from user subscription fees. After doing all of the work necessary to put such a system together, why can't the data require payment for use?
- **Data access:** Surveys and assessing maps should be available through the Registries.
  - Scanned registered surveys are available through the Registries now, and in many cases assessing maps are available there also (at least in paper form, at least in some counties). Scanned surveys, when geo-referenced, can provide a valuable incremental reference framework for a digital parcels layer as well as other GIS layers. (Sutton)
- **Collaborative input**: There needs to be some sort of round trip data tool for assessing. Some assessors want to push out their data and get feedback in order to "crowd source" improvements from complaints and corrections. This could be a very valuable way to improve data bit by bit over time.
  - It would be helpful if property owners could **self-report** parcel conditions for taxation purposes using the web. This might help streamline interactions in cases of abatements or adjustments, where owners feel the information contributing to their tax bill is inaccurate or incorrect.
  - Perhaps it would make sense to implement a system by **collaborating** directly with contract assessors (since these are the people who are most intimately involved with property data in many cases).
- Even if individual reporting isn't something that is part of the parcels framework, there need to be solid **standards and data authentication** tools to ensure that all the pieces work together and that bad data doesn't get in and contaminate the rest.
- **Historical** data would be useful for many applications, showing the evolution of deeds and other land records over time. Parcel history is important for many reasons, and many assessors compile historical picture from old property cards over time, a process which is very time consuming and not very accurate.
- We need to be careful about getting too caught up in issues of survey level **accuracy**. It is more important to get everything mapped down so that we have a baseline to start from. We have to consider specific uses and needs where parcels can be useful, and many of these (most) don't require survey level accuracy.
- We need better **zoning maps** across the state. Maybe this can be done through better parcel maps.
- There are **statutory issues** that provide opportunities to attach property record keeping to Maine's legal framework – these include easements reporting, transfer tax declarations and others. GIS records should be accurate enough and appropriate to be useful – even essential – to some of these processes. If we done correctly, an ILRIS system could be an indispensible tool for using GIS to streamline existing inefficiencies and to provide benefits of higher accuracy and better reporting.
- The land records initiative will need **champions** just like the overall strategic planning effort – maybe more urgently. We need to identify who these people might be.
- **Advertising** successes: Progress is observed by neighbors and a thaw begins. For example, careful parcel digitizing and linkage to tax rolls in one town uncovers some untaxed property and raises revenue. This example is seen by neighbors and accelerates their movement toward GIS
- It would be useful to show **solutions and examples** – things that are happening and have happened locally as well as statewide in places other than Maine. These would be most

useful in areas of land use planning and assessing. It might be useful to take representatives from Maine on tours to other states to assess and review best practices.
    - We need to be able to show successes and **publicize** efforts with concrete, working examples.
    - We need to be able to **show return on investment** and what problems we have solved.
  - **Questions the Cadastral Layer Should Answer:**
    - Who owns a parcel? How many parcels does this entity own?
    - Is there an easement on this property?
    - How many parcels in town or region are in Tree Growth?
    - What is the mother parcel of this property? Can we trace the history all the way back?
    - Is parcel in a flood zone?
    - Is the parcel in any type of economic incentive zone?
    - Is the tax bill for this property mailed out of state?
    - Is the parcel a waterfront abutter?
    - Is the parcel in the shoreland zone? What category of shoreland zoning?
    - How many parcels (in a town or watershed) are waterfront or SLZ abutters?

- **Conclusions:**
  - The group was extremely open and engaged. There was also a varied representation of types of GIS users and non-users who desire GIS access and information. Current uses of GIS varied from environmental and forest management to asset management, planning, zoning, economic development, tax parcel management, surveying, emergency management, flood management and E-911. Educators discussed use of the technology to teach high school and college students as well as conducting economic development research in the state. GIS needs were divided into data creation and maintenance. The primary data mentioned were digital orthoimagery, elevation and a unified, statewide road centerline file as well as parcel data. Training needs were outlined and a widespread need for assistance by communities just starting GIS was needed as well as a program to educate non-GIS users on how it could be used to meet both public and private sector needs. It was obvious from the group that there was a need for improvement on data sharing, access and notification of updates or new data. Likewise there was a need for many communities with simple applications that could be shared across the states to meet generic public sector needs.
  - It remains clear that the Board needs to do a much better job in its outreach and timeliness of communication across the state. While this group had a much more complete understanding of the Board than was evidenced in Auburn, there were still a significant number of folks in the group that didn't know about it.
  - Opportunities for the Board exist by providing timely communication, a statewide program to educate laypeople on how GIS can solve their issues, and the ability to improve data sharing. Tackling problems like these will meet many of the needs of these attendees and provide a basis to improve recognition among potential champions.
  - During the Land Records portion of the forum, considerable time was spent discussing issues of privacy and data access. We find that there tend to be greater privacy reservations in the less developed areas of the state. This was specifically addressed in this session, where examples were given of how that resistance tends to break down with system successes over time.

  - There was significant interest expressed in the idea of establishing an integrated land records system by both the private sector as well as county and municipal government. Many examples of potential benefits were offered, and numerous procedural and technical approaches were

introduced. Collaboration among municipalities, counties, the state, contract assessors and educational institutions were all investigated.

- The capacity crowd for this session provided an detailed and beneficial profile of concerns and needs of geospatial data users spanning a region from Washington County to the western reaches of the Unorganized Territory.

- **Attachment A – Forum Attendees**

	First Name	Last Name	Email Address
1	Kathleen	Bell	kpbell@maine.edu
2	Kelly	Bellis	kellybellis@gwi.net
3	Brian	Bowdoin	bowdoinassociates@rr.com
4	Robert	Burke	bob.burke@bangorwater.com
5	Jim	Campbell	campbell@spatial.maine.edu
6	Lance	Case	l.case@huber.com
7	Stephen	Condon	steve@holdenmaine.com
8	Linda	Dunno	linda.dunno@co.hancock.me.us
9	John	Falla	townmgr@stgeorgemaine.com
10	Mary	Faloon	mfaloon@gwi.net
11	John	Fendl	john.fendl@maine.gov
12	Bill	Hanson	whanson@rudman-winchell.com
13	Wes	Haskell	wes.haskell@bangorwater.org
14	Paul	Higgins	paul.higgins@maine.gov
15	Robert	Higgins Sr	robert.higgins@somersetcounty-me.org
16	Lindsay	Hodgman	lindsay.hodgman@me.usda.gov
17	Ellen	Jackson	Ellen.Jackson@maine.gov
18	Linda	Johns	ljohns@brewerme.org
19	Tora	Johnson	tora@maine.edu
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21	Claire	Kiedrowski	claire@kappamap.com
22	Sharon	Lacey	slacey@rivah.net
23	Marilyn	Lutz	lutz@maine.edu
24	Wilfred	Mercier	Wilfred_Mercier@umit.maine.edu
25	Jake	Metzler	jake@fsmaine.org
26	Dawn	Morgan	Dawn@Maine.edu
27	Kathy	Moriarty	moriarty@bangorwater.org
28	Ken	Murchison	kmurchison@nmdc.org
29	Laurie	Osher	laurie@maine.edu
30	Jim	Page	jpage@jws.com
31	Richard	Phillips	richard.phillips@bangorwater.com
32	Tim	Polky	assttm@stgeorgemaine.com
33	Hope	Rowan	hrowan@islandinstitute.org
34	Ronald	Rowland	rhresr@juno.com
35	Rick	Sands	ricks@orono.org
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44	Michael	White	mike@dirigospatial.com
45	Joseph	Young	joseph.young@maine.gov

Attachment B – Reported Uses of GIS by the Attendees

The attendees were asked to outline what they currently use GIS for and/or what would they like to use it for. The following represents a summary of those comments.

Environmental Use: Forest management, wildlife management, Hydraulic mapping, development of soil data (NRCS), watershed boundaries, fisheries, conservation planning, land cover, spill/contamination recovery (location of spills and contaminations), water analysis, resource protection

Utility Use: Facility management, general planning, hydraulic mapping, asset management; outage management, work orders, intra-storm mapping

Municipal Use: Zoning, parcel related issues, planning, assessing, waste water and water facilities management, tax mapping, code enforcement, economic development, public works, tree growth management

Regional Council Use: Regional planning, economic development, shoreland zoning, flood related requests by Red Cross, army corps, etc.

Forest Management Company Use: General forest land management (cover type, roads, wildlife, operations)

Not-for-Profit Use: Community development, planning, teaching

State Agency: Parcel and zoning, land use planning, development and comprehensive planning

Real Estate Use: Parcel data and sales comparisons (if available), would like zoning data as well

E911 Use: Uses data records for meeting its needs, interested in addressing in unorganized towns, roads, buildings, etc.

Emergency Management Use: All hazards planning, mapping and hazard mitigation planning – integrating GIS into EOC, flood plain mapping

Education: Research, teaching high school students, land conservation, determining forest cover types and easements, digitizing maps to assist local governments in getting started with GIS, Univ of Maine economics school uses it for economic research and teaching applied GIS (economic development and land use)

Surveyor Use: Uses ortho photos and the parcel layer to assist in their surveying efforts

Registry of Deeds Use: Parcel management (wants to index parcel info in documents)

Architecture/Engineering Use: Surveying, planning

Land Use Regulatory Commission Use: Land use planning

Regional Council Use: Planning, zoning, economic development, emergency management/flood mapping

Maine GeoLibrary Board
GIS Strategic Plan and Integrated Land Records Information System

Information Gathering Forum Notes
South Portland, Maine | May 7, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendance: There were 29 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The Forum began with introductions of the Sewall Team of Bruce Oswald of Oswald Associates and Rich Sutton of Reference Standard. The attendees were then asked to introduce themselves and indicate how they currently used GIS or anticipated using it in the future. The attendees indicated a wide range of current and anticipated uses of GIS. However, there were also attendees who were there to learn more about what GIS was and how it could be developed to improve the handling of and access to parcel data. It was apparent from the group's input that GIS was currently or would be a technology that would be deeply imbedded in the workflow of both public and private sector operations in organizations throughout the state of Maine. Details of these uses by category are summarized in Attachment B.

  Attendees were also notified about the new GeoLibrary List Serve and encouraged to sign up for it as a means to keep abreast of the latest GIS events in the state and to communicate with others in the GIS community. Southern Maine Community College was thanked for providing us with the space.

- **Background on Project**
  Bruce Oswald provided background on the GeoLibrary Board. He noted that it was established by an act of the Legislature in 2002 as a statewide network to organize, catalog and provide access to geographic information. He stated that its original funding had come through a $2.3 million bond issue which the Board had spent judiciously on the state clearinghouse, a statewide digital orthoimagery program (by matching $1.6 million in additional funding from the United States Geological Survey (USGS), $350 thousand on developing a state tax parcel standard and then providing grants to create and upgrade tax parcel data as well as many other things. In addition, he noted that the Board was working with various parties to establish a state GIS portal which would be live in the not too distant future. Lastly, he indicated that the Board represented a wide constituency from those in State and municipal government and regional councils to real estate, development, education, utilities, surveyors, GIS vendors and the State CIO.

  Mr. Oswald reported that the Board was a viable functioning organization, but, after 6 years, had nearly expended all the funds that it had been given and felt that it needed to step back and, with the help of the geospatial community in Maine, analyze Maine's statewide geospatial needs and develop plans for the future of GIS in Maine. He stated that the Board felt that these plans needed

to include a path toward obtaining a sustainable funding source capable of meeting those needs. Lastly, he noted that the Board wished to develop a framework and functional specifications for integrating land records information in the state.

Mr. Oswald stated that the Board had applied for and received a matching grant from the USGS to update Maine's 2002 GIS strategic plan and design a statewide integrated land records system as part of the National States Geographic Information Council's (NSGIC) Fifty States Initiative. He noted that the project called for not only updating the strategic plan, but also bringing it into alignment with NSGIC's strategic criteria, and, in particular, focusing on: coordination of local governments, academia and the private sector; developing sustainable funding sources; and cultivating political champions to grow support for future geospatial initiatives.

He then provided the attendees with information on the blog site developed for gathering information and holding project discussion on the land records information system (http://maineplan.blogspot.com).

He noted that there was currently an on-line survey which the Sewall Team was using to gather project data at: http://www.surveymonkey.com/s.aspx?sm=mYgDWShUtJCExpX2cUAXGQ_3d_3d and encouraged all to spend a few minutes completing it. Lastly, he encouraged all to initiate a dialogue on the n*ew* Maine GIS List Serve at: GEOLIBRARY-L-request@LISTS.MAINE.EDU.

- **Purpose of Forum/Review of Approach**
  Bruce Oswald explained the purpose of the Forum with to inform the attendees on the details of the project and to gather their input on both the GIS strategic planning update and the development of an integrated land records information system for Maine. He went on to review the overall project approach with the attendees.

- **Strategic Planning**
  Bruce Oswald discussed the NSGIC coordinating criteria that the updated plan needed to aligned with. They included:
  - Strategic and business plans
  - A full-time paid GIS coordinator and staff
  - Clearly defined authority and responsibility for coordination
  - A relationship with the chief information officer
  - A political or executive champion is involved in coordination
  - A tie into national programs
  - An inter-governmental working environment free of "turf wars"
  - Sustainable funding mechanisms
  - Contracting authority and cost sharing mechanisms
  - Statewide coordination efforts that can be a conduit for federal initiatives

  He then provided examples of initiatives that coordination programs across the country had done. He also talked about how GIS champions are cultivated and sustainable funding sources are achieved.
  - **GIS Needs**
    Next, he asked the attendees to address their GIS needs. These included:
    - **Data**
      - Imagery

    a. Establishment of a program with continual updating of data so the entire state is covered at least once every five years.
  - Forested lands, pasture lands and wetlands data
    a. There is a need to have accurate forested lands and pasture lands data for assessors to be able to compare where properties fall within them.
  - General data comments
    a. A program is needed to provide a better method for data updates including requiring regular updates of parcel data.
    b. Have a requirement that all data be shared through one website. They would like a central place to house local data.
    c. Make it easier for municipalities (and everyone else) to post data for the rest of the geospatial community. Want a method that eases burden on local government not increases it if they want to share data.
    d. Develop an established methodology to notify the Maine geospatial community when data updates are available.
    e. Requiring metadata for all data prior to it being posted is a barrier to those wishing to post their data.
    f. Better support of CADD data is required.
    g. A category of data or an application that uses data that triggers regulation would be extremely helpful to those in the real estate industry.
    h. There was a request to have staff at the state level available to explain what data is out there, where it is located and how best to use it to avoid the current confusion over accessing and using it.
- **Training**
  - They need a course on how to get started with GIS.
  - The Registry of Deeds would like a course on how GIS can be used as well as, generally, what GIS is about and what is available to them?
  - "If I could generate a map of Gorham with true wetlands, or of properties eligible for Tree Growth – this would be of great use; I have a vague understanding of the concepts but don't really know where to start; would benefit from training"
- **Development of simple-to-use applications**
  - Need easy to use applications that can be shared between governments.
  - Development of a common county GIS portal would be of value.
- **Coordination/Access/Data Sharing**
  - It was clear from the comments that improvement is needed in the framework for data sharing in Maine both in terms of locating and posting data as well as having access to use it.
  - Lots of towns are doing redundant ArcServer work. This should be coordinated and costs/systems and surrounding efforts shared.
- **Communication**
  - There is a need for an on-line listing of GIS users and professionals to be made available to assist in better communication and problem solving (Refer to http://www.nysgis.state.ny.us/outreach/whoswho/ as an example).
- **GIS Support**
  - 50% of the towns want to get started on GIS, but don't know how. They need a support mechanism to assist them.
- **Software**
  - Software costs are prohibitive for small communities. MASSGIS gives out ESRI software to municipalities. Can Maine do something similar?

- **Situation Analysis**

  The group then did a situation analysis of the GeoLibrary Board. The results are as follows:

  - **Strengths**
    - Providing orthophotos for the state.
    - Making data available to the public.
    - Providing the parcel mapping grant was good, but too little.
    - Development of standards.
    - In a good position to move GIS forward in Maine from a "specialty " technology to one that can be a mainstream tool for non-technical users to make better spatially based decisions and improve the quality of life in the state.
    - Good participation across the industry, but need communication from the participants.
    - Public/non-proprietary.
    - Range of data types served (ArcGIS, Integraph, shape files, etc.)
  - **Weaknesses**
    - Loss of parcel mapping grant program.
    - No provision for long term operational or program related funding
    - The federal government is a large stakeholder in GIS in Maine, but there is no federal government representative on the Board.
    - Communication - Most people in the state don't know about it and, thus, it has little or no widespread support for it. Much better communication is needed.
    - GIS in general and Board products are not user friendly enough.
    - The Board seems to be locked into a proprietary set of ESRI tools. It needs to expand to other, more generic tools as well.
  - **Opportunities**
    - Use Google Earth or Virtual Earth to make applications easier to use.
    - Encourage the training of college and high school students on the use of GIS and the data.
    - Publicize how the bond's funds were spent by the Board and the benefits it brought. (Mention Google Earth, etc.)
    - Work more with the State CIO and have him talk as much as possible about GIS.
    - Take advantage of current interest in GIS and the establishment of an integrated land records information system by Registries of Deeds.
    - Get data to schools to use.
  - **Threats**
    - Lack of continuing funding.
    - Anonymity of Board.
    - Lack of branding of Board versus MEGIS.
    - Potential users are technologically overwhelmed.
    - Not having a physical location. (It was suggest that the GeoLibrary have a few computers and a "librarian" to show folks how to use GIS, be a grant writer, etc.
- **Potential political or executive champions**

  The group then provided the following list of potential political or executive champions that should be explored by the Board:

  - Maine Association of Realtors
  - Maine Association of Real Estate Developers
  - Maine State Bar Association
  - Maine State agencies such as DOT, DEP, etc.
  - Maine Librarians
  - Maine school systems (long term)

- Partners for Recreational Land Use ("It proposes to bring GIS into every landowners reality")
- Town of York
- Nature Conservancy

- **What do you believe are the best sustainable funding sources for GIS in Maine?**
  The group then provided the following list of potential funding sources that should be explored by the Board:
  - Real estate transfer tax.
  - Municipal fees - A building permit fee similar to that of York.
  - Homeland Security funding.
  - Surcharges on existing fees (sewer fees?, cable franchise fund?, technology access fees?), but not new legislation that is at risk every year. A source with a steady flow of funds is needed not one that provides feast or famine.

- **Integrated Land Records Information System**
  Rich Sutton provided some initial project background then quickly moved conversation to discussions relating to county deeds registry requirements and procedures and how these relate to municipalities and other users.
  - **Deeds Registry Issues and Observations:**
    The Register of Deeds from Cumberland County, Pamela Lovley, participated and provided a great deal of valuable detail in this area. Many of the procedural descriptions which follow are attributable to her.
    - As in other New England states, Maine Deeds Registries record documents. They are administrative bodies with statutory requirements. Specific documents must be notarized and properties must be accurately described.
    - In any given deed, *Exhibit A* is the principal component which provides verbal descriptions of properties being conveyed. Unfortunately, Exhibit A provides little locational information that can place a property in accurate context with its surroundings. *Exhibit A* is a chain of ownership and title description. It may have 5 or more book and page references.
    - Counties collect a transfer tax for the State of Maine when properties are conveyed. This is presently set at $4.40 per $1,000 of valuation. Of the revenue received, the state receives 90% and the counties 10%.
    - Counties have been working with assessors and the legislature in an effort to migrate the transfer process to electronic filings. One sticky issue here is the need for redaction of social security numbers and other potentially sensitive information.
    - There is a (frequently significant) time delay from when the information is first submitted to Maine Revenue Services until it ultimately makes its way to the municipalities. Electronic filing could help to reduce this delay.
    - Map and Lot IDs are required on the transfer tax form. While at first glance this seems like a simple oversight to correct, the hazards of including map + lot IDs on deeds becomes apparent over time. In instances where towns change numbering, this leads to irrelevant and confusing information on deeds.
    - Recorded deed documents do not have tax map and lot numbers recorded. Everything is based on name and deed registry book and page numbers. The result of this separation of book + page and map + lot is that the ONLY place where these two pieces of information comes together is on the transfer tax form. It can take as much as a year for towns to record and register map lots and ID them formally. A result, especially in cases where subdivisions are concerned, is that IDs that are ultimately formalized are not the same as those that appear on original plans.

- There is no requirement for tax maps to be maintained according to any schedule or with any regularity. As with some of the other registries, Cumberland has assessor's maps for all of its constituent towns. Some of these have been scanned, but they are not standard or keyed/geo-registered for use with other data. All of these are voluntary submittals by the towns, but in order to acquire them sometimes the registry has to go and plead, sometimes pay. Often old sets are used. Some (few) are made available through the web.
- For distributing Registry data through the web, Cumberland County uses ACS, as 6 or 7 other Maine counties do.
- Deeds get scanned and put into ACS and into a formal book. Cumberland has stopped printing books as of April 2007; the Registry had run out of additional space for housing them at that point. After the deed is scanned it is put online and into the registry in the research room. Sometimes a seal is put back on if it has become illegible through the scanning process.
- Cumberland has scanned every plan back to 1828, and all of these are online through www.mainelandrecords.com.
- The Cross Referencer checks liens; this can add up to two weeks to processing.
- In the final analysis, the Registry doesn't care about property descriptions or accuracy of mapped data. The Registry is an administrative office that needs to store documents and make them readily available.
- Pam was asked and agreed to help map out a procedural flow diagram of how the process actually works from start to finish.

- **Additional Observations**
  - Deeds can describe more than a single parcel of land. This is not common, but must be considered if a **unique identifier** is being applied.
  - We don't want to abandon the process of unifying and integrating land records because exceptions exist. There needs to be a many-to-one relationship built in to accommodate such cases and manage the tie-in. A **unique ID** seems to be an essential step forward.
  - **Parcels numbering** is not unique once it has been established. The same map/block/lot combination can describe a different piece of land today than it did 20 years ago. This is because as pieces of land are cut and combined they can be cut off from the id that originally applied to the stem – the parent parcel. In other cases some towns have totally renumbered.
  - It is essential to understand that property parcel data involves private land ownership, and that private deals involve information that the participating parties are not necessarily eager to share. **Privacy** is an essential consideration.
  - Most business gets done through transferring interests in property – not the fee simple lot "whole cloth". This can involve timber cutting rights, conservation **easements**, right of ways, etc. We need to keep this in mind when developing a system to be sure that it can be useful for these types of transactions.
  - Interest in lots is also stored in **easement** overlay deeds.
  - Open space, tree growth, farmland – all of these **easements** are handled differently by different towns. Tree growth is the only program that requires submittal of plans but these plans are not standardized. For farmland only revenue must be shown ("how much I made selling my hay").
  - Standard **title searches** look back 40 years to make sure a property is free of encumbrances; Title search doesn't address boundary issues.
  - There is potentially great promise in being able to pull up a tax map and cross relate it to deeds records, then be able to do overlays in **context** with accurate GIS data, all in the same reference frame.

- **Inefficiencies** need to be addressed. The present system is not modern or efficient. In some regards it is broken. If we can simply focus on building a relationship between ONE parcel and ONE deed reference we will be taking a huge step forward.
- It is unfortunate for this process that most properties are described by physical monuments on the ground, with no relationship to tax map lots and IDs. **Inaccurate data** descriptions make current links to and comparisons with tax maps extremely difficult in many cases.
- We should try to develop a process to integrate **registered surveys**, and figure out how to best roll these into the overall cadastral fabric. If these can be made easily available as digital resources we should also try to integrate them into GIS in the process. They can potentially be used to incrementally improve the spatial accuracy of digital parcel data over time by being used as a spatial reference frame.
- A successful integration would create **2-way communication**: GIS indexing by tax map ID and deed reference, so a user could search from the book + page to the map + lot as well as in the other direction.
- For purposes of this project, the **link between property parcels and deeds** reference should be considered to be occurring FROM a parcel TO a deed. This is because the properties described by deeds change so much over time, and it is only realistic to work toward a current state of the parcels fabric (and not every version of it that has occurred over time).
- In order to establish a dependable **unique ID** we will want to consider the unique ID in space AND time.
- Probably **easements** and right of ways will need to be addressed after parcels have been established. This is due to the data being poorly documented and non-uniform.
- Real estate and economic development is currently at a **competitive disadvantage** due to the inefficient data and system. There are too many stumbling blocks in the process. Maine could benefit considerably by improving efficiencies here.
- If this system is ever going to be able to become self sustaining and feed itself it will need to become a necessary means of doing business for lawyers, realtors, surveyors and others. **Standards of professional responsibility** will need to dictate that geospatial overlays are considered. And the data will need to adhere to technically and professionally responsible standards as well.
- We should concentrate on identifying wetland regulation and other **issues that trigger legal action** (vernal pools, etc)
- If integration is going to happen we will need a law that switches us to **mandatory electronic** submittal of plans.

  - **Questions About the ILRIS Initiative:**
    - How do we go about establishing a statewide cadastral fabric to begin with?
    - How do we standardize the data, keep it maintained and ensure that it is recent?
    - Do we need to mandate a universal ID and data schema?
    - Will there be any way to create incentives for towns or other organizations to submit data upstream? Can we get towns to update and submit their parcels on a regular basis?
    - Are the current practices that the towns use for managing their parcel data – their assessing atlases – going to be replaced by something else?
    - Can more be done to support CAD users?
    - Is GrowSmart Maine involved in this initiative?

- **Conclusions:**
  This group was extremely open and engaging. There was also a varied representation of types of GIS users and non-users who desire GIS provided information. Predominant among the current uses

of GIS varied from environmental and forest management to asset management, planning, zoning, tax parcel management, surveying, emergency management, flood management, facility siting and habitat planning. Good input was also received from the Registry of Deeds attendees as well as the legal community. There was significant interest in establishing land records information system by both the private sector as well as county and municipal government. The primary data mentioned were digital orthoimagery and parcel data. Training needs were outlined and a widespread need for assistance by communities just starting GIS was needed as well as a program to educate non-GIS users on how it could be used to meet both public and private sector needs. It was obvious from the group that there was a need for developing a much better framework for data creation, maintenance, posting and having access to the data. Likewise there was a need for many communities with simple applications that could be shared across the states to meet generic public sector needs.

It remains clear that the Board needs to do a much better job in its outreach and communication across the state. This group had a reasonable understanding of the Board. However, there were still a significant number of folks in the group that didn't know about it. Opportunities for the Board exist by providing timely communication, a statewide program to educate laymen on how GIS can solve their issues, and the ability to improve data sharing. Tackling problems like these will meet many of the needs of these attendees and provide it with a basis to improve recognition amongst potential champions.

Regarding Land Records Integration, most of the session was dedicated to addressing county and municipal interactions and procedures. There was highly informative and detail-oriented exchange in this area that produced extensive discussion. The concept of GIS "entry level" service centers dedicated to assisting new users with the most basic of requests, potentially housed in Deeds Registries and centered around property queries, was introduced and discussed. While technical GIS considerations of developing an integrated land records framework were touched upon, primary focus was organizational and procedural issues.

The frank and technically relevant content of this forum added considerable value to the overall data gathering exercise.

Attachment A – Forum Attendees

First Name	Last Name	Email Address	
Jonathan	Albertini	jalbertini@hannaford.com	gis for site location research, marketing, real estate;
Susan	Bickford	suebickford@wellsnerr.org	wells nerr; research mapping;
Barbara	Charry	bcharry@maineaudubon.org	audubon gis manager; biologist; investigates impact of development on wildlife and habitat planning;
Judy	Colby-George	jcg@spatialalternatives.com	gis consulting;
Greg	Copeland	gcopeland@biddefordmaine.org	biddeford gis coordinator;
Cayce	Dalton	cayce@wellsnerr.org	environmenta; wells nerr
Mike	D'Arcangelo	mdarcangelo@gorham.me.us	sees great utility in future; needs training and technical assistance;
Aimee	Dubois	adubois@sacomaine.org	saco and scarborough, gis for public works and asset management;
Jon	Giles	jgiles@sebagotechnics.com	gis consulting; geolibrary board
Josh	Glover		interested student
Matti	Gurney	mgurney@gpcog.org	transportation planning
Steve	Harmon	sharmon@upcwind.com	firstwind; asset management; prospecting
Scott	Hatch	barnwright@gmail.com	partners for recreational landuse
Gary	Higginbottom	ghiggin2@earthlink.net	consulting, advising clients, real estate;
Bob	Houston	robert_houston@fws.gov	extensive gis use; habitat, restoration, protection
Nany	Lane	lane@cumberlandcounty.org	deeds registry
Pamela	Lovley	lovley@cumberlandcounty.org	cumberland county register of deeds; interested to learn about gis to see what may be coming; enthusiastic about possibilities;
Shana	Lowe	slowe@pwd.org	gis analysis, asset management
Edward	MacDonald	emacdonald@memun.org	mma; interested storm impact modeling
Eric	Martinson	eric.martinson@dhs.gov	disaster management, 6 new england states
Lauren	McLane	lauren.mclane@dhs.gov	disaster management, 6 new england states
Curt	Murley	cpmurley@verizon.net	planning board, town of long island
Jamie	Oman-Saltmarsh	jaimeos@smrpc.org	smrpc; serving 39 towns
Janet	Parker	janet.parker@maine.gov	spo; gis for numerous programs including floodplain management, conservation;
Jennifer	Phinney	jphinney@town.falmouth.me.us	info systems, falmouth; serves all departments
Alden	Robinson	alden.robinson@gmail.com	planning intern, town of long island
Rick	Smith	rsmith@bernsteinshur.com	legal, real estate
Vinton	Valentine	vvalentine@usm.maine.edu	usm gis manager; teaching, facilities management

Attachment B – Reported Uses of GIS by the Attendees

The attendees were asked to outline what they currently use GIS for and/or what would they like to use it for. The following represents a summary of those comments.

Engineering/Surveying Use: Surveying

Education Use: Facilities management, research, teaching, community based products

Municipal Use: Assessing, planning, public works, asset management, code enforcement, water quality management,

Regional Council/Council of Governments Use: Planning, transportation planning, etc. (the whole spectrum), mapping and analysis,

County Use: Emergency Management planning, dispatch, (Registry of Deeds is interested in learning how it can assist them and municipalities in better managing parcel data)

Federal Use: Habitat mapping,

Not-For-Profit Use: Inventorying recreation on private property, research mapping

Utilities' Use: Asset management

Maine Municipal Association Use: Risk management services - locating insured properties exposed to risk of wind and flood damage, etc.

State Use: Conservation, flood plain location,

Private Sector Use: (First Wind) – Prospecting wind turbine sites, asset management;
(Hannaford): Siting stores

Environment Use: Conservation mapping, habitat protection and restoration, planning for the habitat and studying the impact of development on wildlife

Appendix N – Meetings with Federal Government Representatives

Teleconferences were held with representatives of various Federal Government Agencies. The purpose of these two teleconferences was to gather information first hand from them on their programs, determine if there were any that the GeoLibrary might be able to partner with to assist geospatial community in Maine, provide information to those participants on the strategic planning process, and encourage their participation in that process.

Appendix N includes reports on each of those teleconferences. They were distributed to the participants as well the web site.

Report on the Conference Call with the Federal Government Representatives| June 26, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendees: There were 14 federal government attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The Forum was opened by Dan Walters, the USGS liaison for the State of Maine, who explained the purpose of the forum and how it was to be conducted. He then introduced the attendees and the Sewall Team. At that point, he turned the meeting over to the Sewall Team who went through 3 presentations for the group.

- **Presentations**
  Bruce Oswald of Oswald Associates began with an overview of the project and a discussion of the strategic planning efforts. Rich Sutton of Reference Standard then did a presentation on the integrated land records portion of the project. Bruce Oswald then provided the group with a presentation outlining the results of the forums held in Auburn, Augusta, Bangor, and South Portland as well as a report on the results of the on-line survey.

- **Round Robin**
  Dan Walters then conducted a round robin with each federal representative. He asked each one identify current projects, new projects, and ideas for better coordination. He noted that he wanted to cover those areas to examine potential synergies (e.g., data, services) so that GeoLibrary Board can plan resources for next 3 to 5 years. The following are the responses from each of the attendees:

  - **George Tabora – National Geospatial-Intelligence Agency**
    George noted that he manages the Homeland Security Infrastructure Program (HSIP) which distributes HSIP data. He stated that "HSIP Gold" data is a combination of government and private sector commodity data (which has been contracted for through vendors such as NAVTEQ). George stated that there are contract and security restrictions on a portion of this data. However, he noted that the Homeland Infrastructure Foundation-Level Data Working Group's (HIFLD) goal was to distribute data categorized as 'HSIP Freedom' data to state and local governments. George went on to indicate that HIFLD was the data broker for the federal community. He stated that there were 330 critical infrastructure feature classes and that the group had identified up to 150 that could be released to state and local level with the remainder kept at the federal level. For instance, he indicated that police and fire stations could be distributed. He also noted that some state and local data had been improved by their consultant (to improve its positional accuracy to rooftop accuracy). He indicated that he anticipated a 2009 release of that data. He noted that they had partnered with 45 states and

that their 133 Cities and Cross Border Infrastructure Program could potentially provide some imagery for Maine. He indicated that he didn't believe that they used parcel data much for their current projects.

- Eric Martinson – Dept. of Homeland Security
  Eric indicated that they don't use parcel data very often. He stated that their data interests revolved around more general statewide data. He indicated that they were up in their Augusta field office for the recent flooding helping their mitigation division put together proposals for buying people out of flood prone areas rather than fixing up their existing properties. He noted that statewide parcel data would have been useful for that effort. He stated that he wasn't aware of any specific projects that had been proposed that were relevant to Maine at present. He noted that they just acquired hi-resolution orthoimagery for Fort Kent.
- Bob Houston – US Fish & Wildlife
  Bob stated that they were working on wildlife refuges, fisheries, law enforcement and a coastal program. He noted that they need parcel data for continued land acquisition for protection of these areas. He also stated that they will be modeling for sea run and other fish (including existing, potential and contiguous) habitats. As part of this, he noted that they needed good base data (roads, LIDAR, slopes and elevation, NHD, land cover, imagery, land ownership). He also stated that they needed an inventory of barriers such as culverts and dams.
- Binke Wang – Penobscot Nation
  Binke indicated that he didn't have anything to add to the discussion at that time.
- Ray Voyer – USDA Natural Resource Conservation Service
  Ray indicated that they had soils (SURGO) data (currently best accessed from the web-based data mart). He also noted that they were currently working on the watershed boundary dataset where they were performing some minor edits related to the watershed names (they expect national certification of it this summer). He stated that they would like the watershed data merged with the NHD into a common database. He stated that they were hungry for a land records system as they had a number of cost share programs in which they were contracting with private land owners (easements, conservation reserve, farmland protection, and wetland restoration).
- Tom Giffen – US Environmental Protection Agency
  Tom stated that they were working on a mercury model for atmospheric deposition, impaired water evaluation, water sampling, optical sampling and beach monitoring. He noted that they were developing level 4 eco-regions in Maine and were working on coastal no-discharge zones. He stated that they had a project to look at lakes and streams for a national state of the environment and that they had developed a mobile survey/ArcPad application. Tom indicated that they had developed a metadata validation tool in Arc GIS and uses the ESRI portal toolkit. He made it clear that this was internal to EPA, but fed the GeoSpatial One-Stop. He stated that he would like to see higher resolution land use/land cover data. He noted that he was working with MA and NH on better resolution data watersheds for storm water evaluations and targeting.
- Karen Anderson – National Park Service
  Kate Anderson, who is the GIS coordinator at Acadia Nation Park, stated that there were initiatives for data standards for buildings, trails and cultural resources within the park's boundaries. She noted that they were beginning habitat mapping for benthic habitats which was being pushed by the ocean policy initiative. She indicated that they were trying to provide GIS services to light users (non-ArcGIS) and were experimenting with Google Earth and virtual computing labs at the university. She stated that she wasn't aware of any Park Service-wide data project except for the building's data. She also indicated that they were doing some cost sharing with local towns and noted that they did 5' contours with Bar Harbor recently. She also

stated that national vegetative class system was done for the park area and that they completed a land use change project using 3 sets of Landsat data (30 m. resolution). She went on to note that boundaries are now being surveyed and delivered in GIS formats and that there was a lot of research relating to air quality deposition underway. She stated that she was interested in getting better elevation data to support their modeling projects.

- Cindy Sessions – USDA Farm Service Agency
  Cindy introduced Kent Williams who was a program manager to review their current situation. Kent explained that NAIP orthoimagery (leaf on) was flown in 2007 for the full state at 1 meter resolution. He noted that they had modified their cost share model as well as the cycles and parameters of the program. He stated that the program agriculture areas in states every year at 2 meter resolution. However, now they are doing 1 meter resolution. He noted that, under the new parameters, they will fly the state every 2 years and provide the state and other federal agencies to partner with them to acquire imagery for the entire state. Kent indicated that the state was 55% agriculture so that only 45% would have to be bought by the state and federal partners with the next cycle being in 2010. If the other federal partners agree to partner on the program, the state could get the entire state for ~$35,000. If they desire to go for 4-Band imagery, that would cost an additional ~$90,000.
- Michelle Dionne – Wells National Estuarine Reserve
  Michelle stated that she ran the research at the Reserve. She noted that there are 27 coastal reserves around the country which includes lots of science based coastal management. She indicated that they have several GIS staff and are interested in various types of spatial data for coastal watersheds. In particular, she stated that they would like higher resolution (2') contours of coastal areas. In addition, she noted that they are interested in obtaining LIDAR data for 1' contours. She explained that the need for this data comes from their need to study coastal areas in response to the sea level rise. As a result, they are also studying groundwater recharge, impervious surfaces as well as sewage treatment in these areas. She indicated that they just finished mapping the bridging marshes in Maine and need high resolution imagery and parcel data to study the development in the shoreline zone. She noted that, for several years, they had sent interns out to towns to digitize tax maps, however, they no longer do that and have a real need for parcel based data.
- Matt Walsh – Army Corps of Engineers
  Matt stated that he was a GIS specialist for all of New England and worked out of MA. He noted that they worked on formerly used defense sites, worst case scenarios for hurricane inundation, etc. He indicated that he used the USGS DEM's for that work and was grateful for the MEGIS data as well. Lastly, he stated that they do have a real estate group that manages army reserve and recruiting centers and have some need for cadastral data at formerly used dense sites.
- Ed Capone - National Oceanic and Atmospheric Agency
  Ed stated that he was with the Weather Forecast Service and did the daily forecasting of river stages throughout New England. He indicated that there were 25 forecast points. He stated that they were trying to tie in estuarine modeling with river forecast modeling and were looking for LIDAR data for inundation and flood potential mapping. He also indicated that they weren't actively pursuing the LIDAR at this point, but were defining their needs first. Lastly, he noted that they were interested in obtaining high resolution data downstream of high hazard dams.
- Scott Mowry
  Scott had to leave the session before he had a chance to speak.

- Meeting Closure
  Dan Walters thanked everyone for attending and providing their valuable input.

Attachment A – Meeting Attendees

Maine Federal Teleconference Attendees – 6/26/08

George Tabora – National Geospatial-Intelligence Agency

Eric Martinson – Dept. of Homeland Security

Bob Houston – US Fish & Wildlife

Binke Wang – Penobscot Nation

Ray Voyer – USDA Natural Resource Conservation Service

Tom Giffen – US Environmental Protection Agency

Karen Anderson – National Park Service

Cindy Sessions – USDA Farm Service Agency

Kent Williams – USDA Farm Service Agency

Michelle Dionne – Wells National Estuarine Reserve

Matt Walsh – Army Corps of Engineers

Ed Capone - National Oceanic and Atmospheric Agency

Scott Mowry - National Oceanic and Atmospheric Agency

Dan Walters – US Geological Survey

Bruce Oswald – Oswald Associates, James W. Sewall Co.

Richard Sutton – Reference Standard, James W. Sewall Co.

Report on the Conference Call with the NOAA Representatives
July 21, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Direction Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendees: There were 5 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The Forum was opened by Dan Walters, the USGS liaison for the State of Maine, who explained that the purpose of the forum was to identify current projects, new projects, and ideas for better coordination that they may have. He noted that he wanted to cover those areas to examine potential synergies (e.g., data, services) so that GeoLibrary Board can plan resources for next 3 to 5 years. He stated that after the Regional Forums and on-line survey that had been conducted, the project team now wanted to follow up with key stakeholders. He noted the federal teleconference that had occurred on June 26, 2008 and that one was scheduled with the representatives of USFS the next day. He then introduced the attendees and the Sewall Team. At that point, Bruce Oswald and Rich Sutton of the Sewall Team provided brief summaries on the overall project as well as a discussion of the strategic planning efforts. Rich Sutton followed by briefly describing the integrated land records portion of the project.

- **Projects and Needs**
  The group then began a discussion of the various projects that NOAA was working on in Maine and the needs that were evident. Those projects include: Emergency Response Management Tool (ERMA), dam mapping, nowCOAST, Hydrographic surveys, Coastal inundation & visualization pilot, Coastal Change Analysis Program (C-CAP), Seacoast Watershed Information Manager (SWIM), Climate Change Monitoring Network, and the Maine Coast Protection Initiative. A copy of those projects and their descriptions is included in the attachments. Each project was discussed by the participants.

  As part of that discussion, Tara Trinko talked about the dam removal project and noted that they were currently studying the Penobscot River to be able to measure the effects of fish distribution after two dams were removed from the river. She noted that they were also working on small barriers such culverts that were impacting fish distribution as well.

  The group mentioned that the Northeast Regional Council, which was created by the New England governors was currently studying eco system health, energy and hazard resiliency. They noted that the group would be requiring substantial geospatial information to perform their work. In addition, they suggested that this could be part of better preparing Maine's representatives to the Council's meetings. They also noted that the Gulf of Maine Council had substantial geospatial needs and that Kathleen Laden (SPO) and George LaPoint (DMR) were on that council representing Maine.

The major needs that they identified were for statewide parcel data coverage and high resolution LIDAR data for the State.

They stated that NOAA requires the Maine Coastal Zone Management Program to do an assessment every 3-5 years. As part of that effort they pull together 10 agencies for 1 day and use that day to pull together a plan that represents the states' perspective. This session also helps to identify what efforts are being duplicated and where gaps exist.

Lastly, the group noted that NOAA could be used to "get the word out" on the Strategic Plan and Integrated Land Records Information System initiatives coming out of the project.

Attachment A – Meeting Attendees

Maine NOAA Conference Call July 21, 2008

Betsy Nicholson - NOAA

Adrianne Harrison - NOAA

Tara Trinko – NOAA

Nate Herold - NOAA

Dan Walters – US Geological Survey

Rich Sutton – Reference Standard, James W. Sewall Company

Bruce Oswald – Oswald Associates, James W. Sewall Company

Attachment B – (Refer to the following file entitled, "NOAA GIS project in ME 07-21-08")

Report on the Conference Call with the USFS Representatives
July 22, 2008

Project: Strategic and Business Plan Development in Support of the NSDI Future Direction Fifty States Initiative & Property Boundary Data Capture and Integration Framework

Attendees: There were 4 attendees at the meeting. (Please refer to the attached list of attendees – Attachment A.)

Discussion:

- **Introductions**
  The conference call was opened by Dan Walters, the USGS liaison for the State of Maine. He explained that the purpose of the forum was to identify current projects, new projects, and ideas for better coordination that they may have. He noted that he wanted to cover those areas to examine potential synergies (e.g., data, services) so that GeoLibrary Board can plan resources for next 3 to 5 years. He stated that after the Regional Forums and on-line survey that had been conducted, the project team now wanted to follow up with key stakeholders. He then introduced the attendees and Bruce Oswald from the Sewall Team. He noted the federal teleconference that had occurred on June 26, 2008 as well as the one that had taken place the day before with the NOAA representatives. He then asked the USFS and Maine Forest Service representatives to discuss their current and planned projects within the state.

- **Projects and Needs**
  Tom Luther (USFS) from Durham, NH discussed the current Forest Stewardship Program's Spatial Analysis Project. He explained that the Forest Stewardship Program National Standards and Guidelines were adopted in October 2005. Under those guidelines, "each State is required to identify, describe and spatially define important forest resource areas where program outreach and activity will be emphasized. The establishment of these program focus areas is intended to enable the efficient, strategic use of limited program resources where they will address current State resource management priorities and produce the most benefit in terms of important forest resource values." He went on to state that all States and territories have chosen to participate in the Forest Stewardship Spatial Analysis (SAP) Program and that in order to identify their important forest resource – or program focus areas - the following twelve core data layers must be included for consideration:
  - Private Forestland
  - Forest Health – Forest Health/History of Traditional Pests
  - Priority Watersheds– Watershed Boundary
  - Public Water Supplies – Municipal Water Resource
  - Riparian Areas
  - Wetlands
  - Threatened and Endangered Species
  - Proximity to Protected Areas
  - Slope
  - Forest Patches – Forest Patch Size

- Threat of Development
- Fire

Tom noted that this statewide forest reassessment was an effort to identify the most important forest lands in the state, and, as a result, had a significant geospatial component. In this process, he indicated that states build on the stewardship space analysis to ID the most important lands for the stewardship program to have a professionally written forest management plan. He noted that this also expanded into the urban environment as well.

Tom stated that the state assessments were to take two years to do (starting from last May). He indicated that there was a timber products output database that included wood mills and where raw materials were coming from. He noted that canopy, cover and impervious surface data were important for this. He also informed the group that Inland Fish & Wildlife got a grant to upgrade their land use/land cover data.

Tom went to state that there were several data layers that were being "suggested" for the State Forest Resource Assessments that are required under State & Private Forestry Redesign. These include spatial data sets for Green Infrastructure, Economic Potential, and Forest Fragmentation.

Down the road, he noted that biomass data, data on climate change and how it affect forests and migration of forest cover types, (including temperature and precipitation changes) would be important to them. Tom indicated that the USGS was looking for NRCS's SURGO – Soils at the county level for their state assessment program. He noted that they currently used the USGS's Digital Elevation Models and could use higher resolution DEM's in urban areas.

Greg Miller (Maine Forest Service) noted that the Maine Forest Service had fire data, but had no plans currently to put it into the GeoLibrary.

Tom noted that the Conservation Biological Institute was putting information together nationally on conservation lands. He concluded by discussing the economic potential of the forest data for recreation, hiking, boating, fishing, etc. in terms of labor, price, trucking, fuel costs and weight restriction data.

Subsequent to the meeting Tom forwarded documents entitled, "Forest Stewardship Program Spatial Analysis Project" and the draft of the "NAASF Guide for Statewide Forest Resource Assessments and Resource Strategies." The first of these documents is quoted above to properly describe the program. Both of these documents are attached.

Attachment A – Meeting Attendees

Maine USFS Conference Call July 22, 2008

Tom Luther – USFS (Durham, NH)

Greg Miller – Maine Forest Service

Dan Walters – US Geological Survey

Bruce Oswald – Oswald Associates, James W. Sewall Company

Attachment B – (Refer to the following documents: Draft "NAASF Guide for Statewide Forest Resource Assessments and Resource Strategies" and "Forest Stewardship Program Spatial Analysis Project")

Appendix O – National States Geographic Information Coordinating Council's (NSGIC) Coordinating Criteria

Appendix O includes the characteristics that the National States Geographic Information Coordinating Council found were present in successful State GIS coordinating programs across the country. Also included are explanations of each of these criteria. One of the goals expressed by the GeoLibrary Board was to better align Maine's GIS coordination program with these criteria.

NATIONAL STATES GEOGRAPHIC INFORMATION COUNCIL (NSGIC)

COORDINATION CRITERIA

1. A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans.
   Explanation: Many states have created one or more full time positions to oversee coordination of geospatial technologies. These individuals are responsible for implementing the state's business plan and are typically assigned to the Governor's Office, Chief Information Officer, Budget Department, or the Technology Office. In some states, these duties fall on a volunteer and in others, no one is willing to assume this role. Having a full-time paid individual is advantageous and a significant portion of their energy is channeled into on-going statewide coordination council activities.

2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.
   Explanation: A responsible individual or group has been designated in many states through executive orders, budget authorizations, or legislation. These individuals, or groups, are usually better able to deal with difficult coordination issues since they are empowered to perform this function. In some cases, "all volunteer" efforts are very effective at coordinating statewide activities through consensus building. These groups are often recognized as a "clearly defined authority" although they have no specific powers.

3. The statewide coordination office has a formal relationship with the state's Chief Information Officer (or similar office).
   Explanation: Geospatial technologies are clearly a component of any state's information technology architecture, but they are not always viewed as such by "old school" IT leaders. A close relationship with the state CIO is essential to move major geospatial technology initiatives forward.

4. A champion (politician or executive decision maker) is aware and involved in the process of coordination.
   Explanation: A visionary political champion who understands geospatial technologies is a valuable ally that can help obtain recognition and funding to support new initiatives. Without a strong political champion, new initiatives often fail.

5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned.
   Explanation: The responsibility for the component pieces of the NSDI should be assigned to appropriate staff and agencies to ensure that stewards are identified, and to prevent duplication of effort. Assignment of responsibilities should happen in advance of actual need to ensure that the appropriate activities are planned for and incorporated into the state's business plan.

6. The ability exists to work and coordinate with local governments, academia, and the private sector.

Explanation: Each state must have the capability to routinely meet and coordinate with all other sectors. Safeguards should be developed to ensure that the needs of other sectors can be incorporated through consensus building activities.

7. Sustainable funding sources exist to meet projected needs.
   Explanation: Sustainable funding is the foundation of effective partnerships. Data production tends to be the highest component cost for implementation of geospatial technologies and most users have requirements for continuous updating of data layers that need reliable fund sources. Effective consortia can only be established when each of the players brings something to the partnership. Non-lapsing funds also help to stabilize partnerships.

8. Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.
   Explanation: To be effective, individual state GIS coordinators or the agencies identified as the stewards for the component pieces of the NSDI must be able to readily contract for software, systems integration, training, and data production costs. Often partnerships can be "brokered" to capture end-of-year funds when contracting mechanisms are already in place.

9. The Federal government works through the statewide coordinating authority.
   Explanation: It is essential that Federal agencies use statewide GIS Coordination offices and councils as a type of "clearinghouse" to make sure that grant opportunities are being used wisely to implement the business plans of the states. Going through the coordination offices and councils will also help to minimize duplications of effort.

Appendix P – Opening Board Questions

Appendix P includes the initial questions asked of the Board to open discussions on the strategic planning and integrated land records needs. This information was used in the Situation Analysis.

James W. Sewall Company
Sewall Team Client Questions

Project: Strategic and Business Plan Development in Support of the NSDI Future Directions Fifty States Initiative & Property Boundary Data Capture and Integration Framework
Client: Maine GeoLibrary Board (Board)
Meeting Date: February 20, 2008
Location: Augusta, ME

Questions:

Strategic Planning

1. What do you see as the three greatest strengths in the current statewide GIS coordination efforts?
   a. _____
   b. _____
   c. _____
2. What are the three most important things that you would like the statewide GIS coordination to do that is not currently doing? (Please be specific)
   a. _____
   b. _____
   c. _____
3. Who do you see as the three most likely political champions for GIS in Maine?

	Name	Organization
a.		
b.		
c.		
4. What do you believe are the best sustainable funding sources for GIS in Maine?
   a. _____
   b. _____
   c. _____

Integrated Land Records Information System

5. What do you feel would be the greatest BENEFITS of accurate and up-to-date statewide parcels to you and your organization?
   a. _____
   b. _____
   c. _____
6. What is the most important parcel data ATTRIBUTE information (i.e., Ownership, Value, Address, Map/Lot ID, Book/Page ID) you require for these data to be of greatest value to you and your organization? _____
7. If a single county or regional area could be made available as a PILOT PROJECT as part of this initiative, what county or area would you nominate, and why? _____
   _____
8. What organizations or individuals do you anticipate challenging statewide, publicly available parcel development and distribution? _____

Maine GeoLibrary Board Member _____
(Please print)

Appendix Q – 2008 Maine Maturity Assessment

Appendix Q contains a document intended as an overview of geospatial health and maturity across a state. Each Maine GeoLibrary Board member was given a copy early in the strategic planning process and asked to assess the status of statewide GIS coordination through its questions

This document was adapted from one developed by Danielle Ayan, GISP, Research Scientist II, Georgia GIS Clearinghouse Manager, Services Node, Center for Geographic Information Systems, Georgia Institute of Technology, Atlanta, Georgia and Michael Ouimet, State GIS Coordinator, State of Texas, Austin, TX with the permission of its authors.

The 2008 Maine GIS Maturity Assessment

Adapted by the Sewall Team

James W. Sewall Company
Oswald Associates
Reference Standard
Somers-St. Claire

ACKNOWLEDGEMENTS

Special Recognition - This document is adapted from a document developed by Danielle Ayan, GISP, Research Scientist II | Georgia GIS Clearinghouse Manager, Services Node, Center for Geographic Information Systems, Georgia Institute of Technology, Atlanta, Georgia and Michael Ouimet, State GIS Coordinator, State of Texas, Austin, TX
Georgia and Texas have made this document available to anyone who can benefit from its use, with the caveat that changes/modifications are sent back to the original authors: Danielle.ayan@coa.gatech.edu and michael.ouimet@dir.state.tx.us. As written, this document is intended as an overview of geospatial health and maturity across a state. Contributions to content improvement are encouraged.

THE 2008 MAINE GIS MATURITY ASSESSMENT

EXECUTIVE SUMMARY

Mission of this Document:

The mission of this document is to assist the strategic planning team in assessing the State's current position in its ability to deliver geospatial services to the State's citizens, governments and businesses. This document categorizes geospatial program and project components necessary for better decisions by anyone at any level in the public and private sectors.

We're asking each Maine GeoLibrary Board member to assess the status of statewide GIS coordination through the following questions. This will be used as a benchmark for the strategic planning project. The components within each category reflect Maine's capability to provide the geospatial services recognized by local, state and federal agencies as essential to a successful service delivery across agencies. Please rank each item from 1 to 5 with one being the least effective and 5 being the most. The results of the study will be summarized at a later date.

Thank you for your participation and willingness to improve GIS coordination in Maine.

Bruce Oswald

Oswald Associates, LLC (Part of the James W. Sewall Company Team)

MAINE'S GIS SCORE CARD	5 – Fully Implemented 4 – In Progress – Fully Resourced to Complete 3 – In Progress – Partial Resources Available 2 – Planned – Resources Assigned 1 – Not Planned – No Resources Assigned 0 – Not Applicable
Geospatial Coordination and Collaboration	
	1. A full-time, paid State GIS coordinator or state geographic information officer (GIO), endorsed via legislation or executive order, exists and has been assigned a clear, written mandate (for statewide GIS Coordination) with defined duties and responsibilities and is a member of a State GIS Council. Comment: For the purposes of this assessment, the GeoLibrary Board should be considered as the state geospatial coordination council.
	2. A state geospatial coordination council (Council) exists from legislation or an executive order that has assigned a clear, written mandate with defined duties and responsibilities.
	3. The Council has a mission to support and partner in the development of national, state and local spatial data infrastructures via a charter and by-laws adopted by its members. Toward this end, the Council produces strategic and business implementation plans and updates them on a periodic cycle.
	4. The Council membership is inclusive and represents all major stakeholders and interest groups via standing committees and/or workgroups within the council's geographic or administrative area.
	5. The Council is guided by a steering committee or governing board composed of a representative selection of member stakeholders and interest groups.
	6. The Council has paid staff assigned to it to provide administrative support and maintain continuity through changes in committees and workgroups.
	7. The Council has a review and coordination role for GIS projects within its geographic or administrative area to help ensure projects meet the goals established in the council's strategic and business plans.
	8. The State GIS Coordinator and the State Council have a formal relationship with the Chief Information Officer (or equivalent office).
	9. The Council has involvement and a channel of communication to executive and elected leadership on its progress and recommendations for improvements.
	10. Geospatial technology is addressed and measured in the state's information technology strategic plan.

MAINE'S GIS SCORE CARD	5 – Fully Implemented 4 – In Progress – Fully Resourced to Complete 3 – In Progress – Partial Resources Available 2 – Planned – Resources Assigned 1 – Not Planned – No Resources Assigned 0 – Not Applicable
	11. The State is represented on the National States Geographic Information Council (NSGIC).
	12. Key geospatial liaisons exist and are members of the State Council.
	13. A strategic plan and supporting business plan(s) exists for NSDI framework layers and other statewide digital base map layer development. In each, Program custodian(s) exist for each base map layer.
	14. Data development standards are adopted and implemented for each state base-map layer.
	15. Geospatial Data Models are adopted and implemented for each state base-map layer.
	16. A formal project lifecycle plan has been developed for each base map layer with procedures for improving and enhancing the data based upon an independent and rigorous QA/QC review process and user feedback.
	17. A coalition of executive sponsors, business, elected leadership, and other key stakeholders exist that value base map data for a wide array of applications vital to the citizenry (the value should be quantified in the comments below).
Metadata, Discovery and Access, and Geospatial Web Services	
	18. A funded State Geospatial clearinghouse(s) exists.
	19. The geospatial clearinghouse(s) maintain a current and easily searchable on-line catalog of local, state, and federal geospatial data holdings that provide metadata records for all downloadable data and data are provided in formats useable for the majority of professional users.
	20. The state's collection of geospatial web services and downloadable maps are available or linked through the State Web Portal. (For public access)
	21. A registry exists of published geospatial Web services *(Universal Description, Discovery & Integration –UDDI)*. (For development purposes)
	22. The state has a data sharing agreement program to facilitate and encourage the appropriate sharing of geospatial data between all levels of government.
	23. The GIS Coordination Council maintains a directory of membership and a list of stakeholder contacts (example, a current list of all GIS Coordinators at state, regional and local government organizations is publicly accessible).
	24. Digital data backup and archiving of geospatial data are routinely performed per state

MAINE'S GIS SCORE CARD	5 – Fully Implemented 4 – In Progress – Fully Resourced to Complete 3 – In Progress – Partial Resources Available 2 – Planned – Resources Assigned 1 – Not Planned – No Resources Assigned 0 – Not Applicable
	and national archive specifications.
Statewide Partnership Programs	
	25. State partnership programs exist that are authorized to enter into state contractual and financial agreements with multiple parties to develop geospatial data.
	26. The state has established master purchase agreements and enterprise license agreements for geospatial data development, licensing and software.
	27. The GIS Coordination Council has a program to develop program alliances and reciprocal agreements with other organizations that have a common mission or business interest (i.e., an optional partnership).
	28. The GIS Coordination Council has the ability to manage grants and partnership programs either directly or indirectly through an administrative agency (i.e., a fiscal partnership).
	29. The coordination council maintains an active and funded GIS outreach program to encourage NSDI, state, regional, and local government partnerships and alliances.
	30. The GIS Coordination Council maintains a current inventory of major projects and programs being conducted by stakeholders.
National Partnership Programs	
	31. The state is participating in the Federal Geographic Data Committee's (FGDC) National Spatial Data Infrastructure (NSDI) Program.
	32. The state participates in the National Map Program.
	33. The state participates in the Geospatial One Stop Program.
	34. The state participates in the National Height Modernization Program.
	35. The state participates in the National Digital Elevation Program (NDEP).
	36. The state participates in the USGS/NGA Homeland Security (133 Urban Areas Program).
	37. The state participates in the USDA/FSA National Aerial Information Program (NAIP) and the USGS National Orthoimagery Program.
	38. The state participates in the Federal Emergency Management Agency (FEMA) Flood Map Modernization Program.
	39. The state participates in the Census Bureau MAP/TIGER Modernization / Local Update of Census Addresses (LUCA), and Boundary and Annexation Survey (BAS) Programs.
	40. The State participates in the HSIP Freedom Program.
	41. The State participates in NSGIC's RAMONA Program.

MAINE'S GIS SCORE CARD	5 – Fully Implemented 4 – In Progress – Fully Resourced to Complete 3 – In Progress – Partial Resources Available 2 – Planned – Resources Assigned 1 – Not Planned – No Resources Assigned 0 – Not Applicable
	42. The State participates in the High Growth Training Initiative (Geospatial Technologies). Comment: Presidential Executive Order 12906 defines the NSDI as "the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data (see also Office of Management and Budget (OMB) Circular A-16) Geospatial Technologies is one of 14 sectors that fit within the following criteria: 1) They are projected to add substantial numbers of new jobs to the economy or affect the growth of other industries; or 2) They are existing or emerging businesses being transformed by technology and innovation requiring new skills sets for workers. (http://www.doleta.gov/BRG/JobtrainInitiative)
Geospatial Policies, Standards, Specifications and Best Practices	
	43. A state organization has the responsibility to recommend, adopt, promulgate and implement geospatial policies, standards, specifications and best practices.
	44. The state has adopted and implemented as appropriate FGDC, OGC, ANSI and ISO or more detailed state and local geospatial standards and specifications.
	45. A data sharing standard or policy has been adopted to promote the open and free exchange and sharing of non-sensitive geospatial data with appropriate metadata to all NSDI stakeholders.
	46. The state has addressed homeland security and privacy issues for public access to GIS data through laws and/or administrative rules.
	47. If the state has an exception to the Freedom of Information Act (FOIA) regarding the sale of GIS data, a business model(s) and/or guidelines regarding uniform and equitable fees for GIS data reproduction and distribution have been provided.
	48. Open Geospatial Consortium *(OGC)* specifications have been adopted to promote interoperable geospatial Web services, a Web Services Definition Language *(WSDL)* standard has been adopted and a standard for information content display requirements has been adopted *(e.g. disclaimers, contact info, parent links)*.
	49. Best practices for contracts containing geospatial requirements for state agencies have been adopted.
Training, Education, and Professional Networking Activities	
	50. The state maintains an internal user helpdesk for GIS users that provides guidance, helps solve technical problems, and answers questions.

MAINE'S GIS SCORE CARD	5 – Fully Implemented 4 – In Progress – Fully Resourced to Complete 3 – In Progress – Partial Resources Available 2 – Planned – Resources Assigned 1 – Not Planned – No Resources Assigned 0 – Not Applicable
	51. The state has a program to provide GIS technical training and professional development opportunities for staff and other stakeholders.
	52. A program exists to connect universities, community colleges and professional and trade schools that are seeking partnerships and opportunities for students to gain experience solving real-world problems with state geographic information science and technologies programs (i.e., educational articulation across institutions).
	53. A program exists to train GIS stakeholders on NSDI concepts and principles *(e.g. metadata, standards, clearinghouse operations, NSDI roles and responsibilities, et cetera).*
	54. The GIS Coordination Council has formed affiliations with geospatial professional organizations operating in the state such as URISA, GITA, AAG, ASPRS, professional surveyors and software user groups.
	55. A state classification or job description system exists for GIS professionals.

Appendix R – Participants & Stakeholders

Appendix R contains a listing of the major participants in this process from the GeoLibrary Board and from the Board's Project Team both of whom provided outstanding leadership on this project. In addition to those individuals, we have included a listing of individuals that have been identified as stakeholders on the project and have been received material on this project and, many of whom, have provided direct input in Maine's strategic planning process.

Initial Board Members

Member	Sector Representing
Jim Page	GIS Vendors
Marilyn Lutz	University of Maine System
Gary Duplisea	Utility Interests
Dan Coker, Vice-Chair	Environmental Interests
Gretchen Heldmann	Municipal Government
William Hanson, Chair	Real Estate & Development Interest
Robert Marvinney	State GIS Functions
Christopher Kroot	State GIS Functions
Michael Smith	Office of the Chief Information Officer
Gregory Copeland	Municipal Government
Nancy Armentrout	Commissioner of Administrative & Financial Services
Kenneth Murchison	Statewide Association of Regional Councils
Jon Giles	GIS Vendors
Aimee Dubois	Public
Paul Hoffman	Statewide Association of Counties
STAFF TO THE BOARD	
Larry Harwood	Maine Office of GIS

Current Board Members

Stu Rich	GIS Vendors
Marilyn Lutz	University of Maine System
Greg Davis	Utility Interests
Dan Coker, Vice-Chair	Environmental Interests
Gretchen Heldmann	Municipal Government
William Hanson, Chair	Real Estate & Development Interest
Robert Marvinney	State GIS Functions
Christopher Kroot	State GIS Functions
Michael Smith	Office of the Chief Information Officer
Gregory Copeland	Municipal Government
Nancy Armentrout	Commissioner of Administrative & Financial Services
Kenneth Murchison	Statewide Association of Regional Councils

Jon Giles	GIS Vendors
Aimee Dubois	Public
Paul Hoffman	Statewide Association of Counties
STAFF TO THE BOARD	
Larry Harwood	Maine Office of GIS

Project Team Members

Nancy Armentrout – Team Leader
Greg Copeland
Diane Godin
Bill Hanson
Marilyn Lutz
Dan Walters
Steve Weed

Board Project Manager

Will Mitchell – Mitchell Geographics, Inc.

Stake Holders

Last Name	First Name	Title	Organization
Adjutant	David		
Agro	Dan		Mitchell Geographics
Albertini	Jonathan		Hannaford
Allen	Kenneth	Assessor	Casco
Ames	Russel	Town manager	Verona Island
Amoroso	Kelly	EMA	Kennebec County
Andersen	Karen		Government - Federal
Anderson	Debra	Register of Deeds	York County
Armentrout	Nancy		Government - State
Arndt	Ken	Economic and Community Director	
Arseneault	Barbara		Waldo County
Astarita	Art		Non-profit
Aston	Edward	Border Patrol Agent	US Customs and Border Protection
Auger	Michael		Androscoggin Land Trust
Austin Wardwell	Jennifer		Klein Schmidt
Avila	Kyle	Assessor	Mt. Desert
Bampton	Matthew		USM
Banks	John	Natural Resources Director	Penobscot Nation
Barker	Alison		Regional Councils
Barker	Seth		Government - State
Bartlett	Pamela		Government - County
Barton	Elizabeth	Natural Hazard Planner	MEMA
Bastey	Cindy		Government - State
Beard	Kate		Education
Beaulieu	Douglas		Aroostook County
Beazley	Willis		University of Maine
Belanger	Peter		Government - State
Bell	Kathleen		University of Maine
Bellis	Kelly		Private Business
Belyea	David	Site Manager	Air Force Real Property Agency
Bennet	Jim	First Selectman	Thorndike
Bensen	Bud	Town Planner	Standish
Berkowitz	Mitchell		Gray
Berkowitz	Mitchell	Town Manager	Gray
Bernier	Donna	Town Manager	
Bernstein	Judy	Planner	Kennebunk

Bertrand	Matt		University of New England
Bickford	Sue	GIS and resource specialist	Wells Reserve
Bird	Sheldon		Government - State
Birmingham	Sylvia		Knox County
Birtz	Ruth		Lincoln
Blackburn	Richard	Assessor	City of Portland
Blackburn	Susan		Government - County
Blocher	David		Government - State
Bogart	Renee		City of Auburn
Bohlman	Robert		York County
Boothroyd	Jen		Regional Councils
Boston	Dennis		CMP
Botting	William		Town of Sanford
Bowdoin	Brian		Bowdoin Associates
Bowe	Daniel	Systems Analyst	Global Relief Technologies Inc.
Brackett	Todd		Lincoln County
Bradstreet	Mark		Bradstreet Consultants
Brady	Angela	GIS Program Aide	UM at Machias
Breau	Susan		Utility
Brierley	Bruce	First Selectman	
Brierly	Bruce		Government - Municipal
Broussard	Laura		Sagadahoc County
Brown	Patricia		Aroostook County
Buck	Clifford	Code Enforcement Officer	Readfield
Buck	Steve	City Manager	Caribou
Bulay	Susan		Penobscot Co. register of deeds
Burgess	Judy	Town Planner	Berwick
Burke	Robert		Bangor Water
Burns	Tom		Agis Maps
Bustin-Hatheway	Beverly		Kennebec County
Butler	Kathleen		Central Maine Power
Butts	Cindy	Executive Director	Maine Realtors
Caldwell	Mark	Assessor	Farmington
Campbell	Jim		Education
Capone	Ed		NOAA
Caron	Louise		Aroostook County
Caron	Spencer	Survey Tech	Northern Maine Surveyors
Carrellas	Tom	Data Manager	City of South Portland
Carter	Judy		Berwick
Carter	Jon	Town Manager	Kittery

Cary-Kothera	Lori		NOAA
Case	Lance		Private Business
Catlin	James	Town Manager	
Cavendar	Clyde	Assessor	Bowdoin
Cayce	Dalton		Wells Reserve
Cayer	Lionel	Director Engineering	
Chace	Jay		Harpswell
Chakravarty	B.Victor		Maine OIT
Charest	Greg		EPA
Charry	Barbara		Maine Audubon
Clannon	Lamarr		*NEMO*
Clark	Robert		Private Business
Clark	William		Hancock County
Cloutier	Mary		Government - State
Clukey	Jack		Dover Foxcroft
Cohen	Deb		EPA
Coker	Dan		Non-Profit
Colby-George	Judy		Spatial Alternatives
Collins	Bill		Penobscot County
Condon	Stephen		Houlton
Conlogue	Eugene	Town Manager	Millinocket
Conover	Shey		Island Institute
Copeland	Greg	GIS Coordinator	City of Biddeford
Corey	Fred	Natural Resources Director	Micmac Tribal
Cousins	Lewis	Assessor	Castle Hill-Chapman-Mapleton
Couture	Joseph		Maine OIT/DOT
Craig	Don		Regional Councils
Crawford	Steve	Environmental Planner	Wabanaki Tribal
Crichton	Peter		Cumberland County
Crocker	Michelle		Central Maine Power
Cummings	Brenda		Bath
Curtis	Clifton	LTS Program Manager	MDOT
Curtis	Julie		Hancock County
Cyr	David	Public Works Director	Fort Kent
Daigle	Peggy	Town Manager	Old Town
Dalton	Cayce		Wells Reserve
Daniels	Williams	Aviation Coordinator	Stantec
D'Arcangelo	Michael	Assessor	Gorham
Davis	Greg		TW Cable
DeLong	Barry	Sheriff	Somerset County
Demers	Sarah		Government - State
Denis	Gena		Government - State
Dennison	Donna	Sheriff	Knox County
DePrenger	Cynthia		Hancock

Deschene	Clinton	Town Manager	Hermon
Desjardin	Jason	Operations Forester	Orion Timberlands LLC
DesJardins	Guy		Government - County
Desmond	Jay	GIS Specialist	
Devlin	Robert		Kennebec County
DiBello	Carol		Government - State
DiDonato	William		Old Orchard Beach
Dion	Mark		Cumberland County
Dionne	Michelle	Director-Research	Wells Reserve
Doan	John		Camden
Doiron	Robert		Government - State
Donley	John		UMPG
Donoghue	Kevin		Private Business
Donovan	Cathleen		Brunswick
Dostie	Crystal	Assessing	Augusta
DuBois	Aimee	GIS Coordinator	Town of Scarborough and Saco
DuBois	Chery	Assessing	Auburn
Dudley	Eric	GIS Coordinator	Westbrook
Duguay	Michael	Director Economic Development	
Dunlap	Art		Poland
Dunn	Michael		Government - State
Dunno	Linda		Hancock County
Duperry	Phil		Maine Municipal Association
Duplisea	Gary		Private Business
Durgin-Leighton,	Kathy	Econ. Dev. Coordinator	
Dyer	James		MSAD 48
East	Judith		Washington County Council of Governments
Edwards	Thomas	GIS Administrator	Town of Rockport
Hedefine	Eeva		James W. Sewall
Ellis	Bob	Code Enforcement Officer	
Falla	John		St. George
Faloon	Mary		Government - County
Faucher	Raymond		Government - State
Faunce	Bob		Regional Councils
Fendl	John		Government - State
Finelli	Robert		Dig Safe
Fisher	Jim		Association
Fisk	James	Economic Development Director	
Fitzgerald	James		Ellsworth

Flaherty	George		Cumberland County
Forbes	Peter	Project Manager	Air Force Real Property Agency
Fortier	Barbara		Androscoggin Valley Council of Governments
Fossum	Deborah	Town Planner	Gorham
Foster	Walter		Waldoboro
Foster	John	GIS Coordinator	Brunswick
Fournier	Patricia		Government - County
Fox	Brad		Blackstone Land Surveying
Frament	Bill		Government - Federal
Francomano	James	City Planner	City of Presque Isle
Frawley	Erin		Central Maine Power
Frost	Lisa		Manchester
Fulton	Carole		Oxford County
Gabrielson	Jeremy		Regional Councils
Galant	Eric		Regional Councils
Gallant	Wayne		Government - County
Gambrel	Sean		Kappa Mapping
Gardiner	Larry	Assessor	Ellsworth
Garold	Don		Private Business
Geaghan	Kathleen		Oakland
Geaghan	Bob		Van Tuinen Assoc.
Geaumont	Jeff	Assessor	Town of Sanford
Giddings	George	Assessors Agent	
Giffen	Tom		EPA
Giles	Jon		Sebago Technics
Gilliam	Werner	Assistant CEO	Kennebunkport
Gillway	James	Town Manager	Searsport
Gimond	Manuel		Education
Giroux	David		Hallowell
Giroux	John	Public Works Director	Winslow
Glaser	Ed		Rockport
Glidden	Katherine		Private Business
Godin	Diane		Somerset Registry of Deeds
Goggin	John		Government - County
Goldsmith	Stephen	Selectman/Assessor	Town of Lovell
Goodwin	Gabriel	CEO	Houlton
Gove	Alan		Van Tuinen Co.
Graham	Patrick	Director of Project Development	James W. Sewall Co
Greely	David	Selectman	Town of Jackson
Green	Mark		Government - Municipal

Green	Misty		Sagadahoc County
Greenlaw	Suzanne		UMPG
Griffen	Tom		EPA
Grimshaw	Pamela	Town Manager	Wayne
Grube	Joseph	Assessing	Lewiston
Gurney	Matt		Greater Portland Council of Governments
Hachey	Debora	Chair Board of Selectmen	Bowdoin
Haeuser	Tex	Planning Director	South Portland
Hale	Stephen		EPA
Hall	Lyle		Government - State
Hammond	Jeff	CEO	Town of Bucksport
Hand	Jeffrey		Brewer
Hanscom	Jennifer		AUBURN
Hanson	Bill		Legal
Hanson	Wade	CEO	Town of Houlton
Hardy	Timothy		Government - County
Harmon	Steve	GIS Manager	First Wind
Harrison	Andrianne		NOAA
Harwood	Larry		Government - State
Haskell	Wes		Bangor Water
Hatch	Scott		Non-profit
Hawley	Tom		NOAA
Hayes	Tom		Wm Van Tuinen Assoc.
Hedefine	Eeva		Private Business
Heldmann	Gretchen	GIS/IT Specialist	Town of Hamoden
Henderson	Michael		Piscataquis County
Hennessey	Justin		Topsham
Herold	Nate		NOAA
Hertz	Liz		Government - State
Hewitt	James	Economic Development	SKOWHEGAN
Hewlett	Jeff		Skowhegan
Higginbottom	Gary		Private Business
Higgins	Paul		Government - State
Higgins	James	Surveyor	BRUNSWICK
Higgins Sr.	Robert		Somerset County
Hile	Pamela		West Bath
Hinerman	Michael		Government - County
Hinson	Jonathan		Maine OIT
Hirning	Cynthia		Westbrook
Hitchcock	Kimberly	Engineering/GIS Technician	Maine Public Service Center
Hobbins	Dave	Professor	UMFK
Hodgman	Lindsay		USDA
Hollins	Tammi		Wells

Holt	Robert		CMA
Horr	Brett	GIS Coordinator	
Houston	Bob		Government - Federal
Howe	Bob		Association
Huck	Chris		Regional Councils
Huston	Chris	GIS Forester	Irving Woodlands LLC
Isaacson	James	Town Planner	New Gloucester
Iverson	Thomas		Government - County
Ives	Geoffrey		Delorme
Izzo-Morin	Marianne		Otisfield
Jackson	Ellen		Government - State
Jacobi	Paul		Maine DOT
Janiewski	Walter		OLD ORCHARD BEACH
Jellis	Dan		Yarmouth
Johns	Linda		Education
Johnson	Andrew		Government - State
Johnson	Tanya		Government - State
Johnson	Eileen		Bowdoin College
Johnson	Tora		Univ. of Maine/Machias
Johnson	Patrick		MaineDOT
Jones	R.Neal		UMPG
Jordan	Charles		Manchester
LeGore	Jay		Montville
Leighton	E.Ryan	Town Engineer	LISBON
Wood	John		Lyman
Kablitz	Antje		Private Business
Kamm	Jay		Regional Councils
Kane	Nate		Government - State
Katnik	Don		Government - State
Keane	Ellen		NOAA
Kearney	Frank		Utility
Keene	Matt		USM
Kelso	Paula	Comp. Planning Committee	
Kent	Rick	Code Enforcement Officer	Rumford
Kerns	Bruce	Assessor	Kittery
Kerns	Bruce		Kittery
Kiedrowski	Claire	President	Kappa Mapping
Kilton	Caron	Administrative Assistant	
Kimball	Mike		University of Maine
Knorr	Joyce	Branch Manager	American Red Cross
Konczal	Robert	Assessor	Freeport
Kooyege	Kenneth		Rockport
Kroot	Christopher		Government - State
L'Heureux	Dan	Town Manager	China
Lacey	Sharon	Assessor	

LaChapelle	Renee	Assessing	Auburn
Lamb	Gary	Director of Planning and Development	Old Orchard Beach
Lambert	Keeley-Anne		Wells
Land	Andrew		Ransom Environmental
Landry	Amy		Regional Councils
Lane	Nancy		Cumberland County
Lapierre	Mark L	MIS Director	Wells
LaPlante	Fred		Mercer
Lea	Ferg		
Leach	Clifford	Selectman	Town of Brooksville
Leahy	Lisa		Maine OIT
Leavitt	Ferg		Regional Councils
Leavitt	Chris		St. George
Lebel	Curt		Gardiner
LeGore	Jay		Montville
Leighton	E.Ryan	Town Engineer	LISBON
Lent	Bob	Director	USGS
Lessard	Amanda		New Gloucester
Levesque	Tony	Community Development Director	Town of Fort Fairfield
L'Heureux	Daniel	Town Manager	Town of China
Liberty	Randall	Sheriff	Kennebec County
Linsford	Jeff		
Little	Loralynn		MaineDOT
Lockman	JT		Regional Councils
Longsworth	Gordon		Education
Lovley	Pamela		Cumberland County
Lowe	Shana		Utility
Luther	Tom		Government - Federal
Lutz	Marilyn		University of Maine
MacDougall	Mike		EPA
Madone	James		Aroostook County
Magoon	Julie		Franklin County
Manning	Jim		NOAA
Manning	J		Education
Mansius	Donald		Private Business
Marcotte	Thomas		Maine OIT/DOT
Marshall	Barry		Government - State
Marshall	Wayne	City Planner	Belfast
Martell	Steve		University of Maine
Martinson	Bruce		Association
Martinson	Eric		Government - Federal
Martinson	Bob		

Marvinney	Bob		Government - State
Mateosian	Paul	Assessor	BATH
Matheson	Carol	Assessor	
Mathiau	Judy		Rockport
Matson	Mark		UMPG
McAnneny	Cathleen		University of Maine
McDonald	Edward		Non-profit
McDougal	Dona		MSAD 48
McLane	Lauren		Government - Federal
McMahon	James		Lincoln County
McPherson	Cynthia	Code Enf. Officer	Government - Municipal
Melanson	Rod		Topsham
Menkin	Frank		USDA
Mercier	Wilfred		University of Maine
Merrill	Samuel	Edmund S. Muskie School of Public Service	Education
Metzler	Jake		Non-profit
Miano	Rome		Dig safe
Mike Young	Mike	Administrator	Phippsburg
Miller	Greg		Government - State
Minor	Scott		Utility
Mitchell	Will		Mitchell Geographics
Moeller	Sonya		Association
Monahan	Jared		UMOG
Montefusso	Joseph		Portland
Moody	Paula		Rockport
Morey	Shannon	GIS Manager	WELLS
Morgan	Don		Education
Moriarty	Kathy		Utility
Mowery	Sandra	Planner	Kittery
Mowry	Scott		NOAA
Murchison	Janine	Project Engineer	James W. Sewall
Murchison	Ken	GIS Specialist	Northern Maine Development Commission
Murley	Curt		Government - Municipal
Murphy	Donald		N.E. Forestry Const
Myers	John	Town Clerk	Buxton
Nason	Ross		Regional Councils
Nazar	Matt	Deputy Director	Augusta
Nehring	Fred		Nehring Co.
Nicholson	Betsy		NOAA
Nims	Jeffrey		Camden
Nixon	Carla	Town Planner	Cumberland
Nixon	Carla		Government - Municipal

Nylen	Carl		ESRI
O'Brien,	Mike	GIS	Auburn
O'Bar	Elizabeth	Assessor	City of Caribou
O'Clair	Felicia	GIS Coordinator	Maine Public Service
Oman-Saltmarsh	Jamie		Regional Councils
O'Meara	Maureen		Cape Elizabeth
Osher	Laurie		University of Maine
Oswald	Bruce		Oswald Assocs. LLC
Ouelette	Ben	GIS Coordinator	Portland
Ouellette	Alain		NMDC
Ouellette	Maurice		Government - County
Ouellette	Vernon		Aroostook County
Ouellette	Maurice		
Ownings	Cindy		Government - State
Page	Deloris	Register of Deeds	Waldo County
Page	James		Private Business
Pagels	Linda		Government - County
Painchaud	Martine		Eliot
Parker	Janet		Government - State
Parker	Scott		Government - County
Paul	Jonathan		Lisbon
Pellerin	Timothy		Lincoln County
Pellett	Cindy	GIS Coordinator	Eastern Maine Development Commission
Peppard	Dave		Richmond
Peppard	Dave	Town Manager	Richmond
Philbrick	Lisa		Maine DOT
Phillips	Richard		Bangor Water
Phinney	Jennifer	IT Administrator	Falmouth
Pike	Dennis		Government - County
Pinette	Nancy		New Gloucester
Pinkham	Ralph		Knox County
Pito	Vincent		Hancock County
Polky	Tim		St. George
Pollack	David		Woodward and Curran
Porter	Leisa		Skowhegan
Post	William		Knox County
Potvin	Joanne		Government - County
Prokey	Jennifer		UMPG
Puleo	Stephen	GIS Coordinator	South Portland
Pullen	Scott	Town Manager	Town of Levant
Pulver	William		Government - State
Rea	James		Government - State

Redmond	Anji	GIS Specialist	MEDEP and MEGIS
Reynolds	Todd		Portland
Richert	Evan	Town Planner	Orono
Ring	Jim		Bangor
Ring	Shiloh	Code Enforcement Officer	
Robbins	Abbi		Private Business
Robinson	Daniel	Assessor	Kennebunk
Robinson	Calvin		Penobscot County
Robinson	George		Government - Municipal
Robinson	Milo		Federal Geo
Robinston	Alden		Government - Municipal
Robison	George		Burnham
Rollins	Kathy		Government - State
Root	John	Code Officer	Rockland
Root	John		Rockland
Ross	Glenn		Penobscot County
Ross	Claire		Chebeague Island
Rowan	Hope		Island Institute
Rowland	Ronald		Government - Municipal
Rowley	Dale		Waldo County
Roy	Normand		Lewiston
Sands	Rick		Private Business
Sardano	Jason		Government - State
Savramis	Dean		Government - Federal
Sawyer	David	Assessor & GIS Coordinator	Windham
Scammon	Karen	Assessing	Auburn
Schmidt	Miki		NOAA
Schmidt	Vicki	GIS Specialist	Maine Fire Protection Services
Scott	Suzanne		Legal
Seaver	Scott	Administrative Assistant	Town of North Yarmouth
Sessions	Cindy		Government - Federal
Severance	Steve	GIS Manager	Utility
Shane	William	Town Manager	Cumberland
Silva	Marcia		Lincoln
Simcock	Jason	Director Planning and Development	Gardiner
Simmons	Lisa		Knox County
Skelton	Craig	Assessing Agent	Government - Municipal
Skelton	Barb		North Yarmouth
Smith	Donald		Washington County
Smith	Lee	Town Manager	Waldoboro
Smith	Linda		Piscataquis County
Smith	Maura		Government - Municipal

Smith	Michael		Government - State
Smith	Rick		Legal
Smith	Donald		Washington County
Smith	Maura		
Smith-Peter	Andy		USM
Sneddon	Jeff		Non-profit
Spaulding	Mike		Maine DOT
Spencer	David	E911 Addressing Agent	Somerset County
St. Hilaire	Lisa		Government - State
Stagge	Bob		Maine OIT
Stankevitz	Frank	Code Officer	WINSLOW
Steele	Zack		Wells Reserve
Stewart	Jon		We Map It
Stillings	Amilynn		State of Maine
Stocco	MacGregor		Regional Councils
Story	Scott		Waldo County
Strange	David	Environmental Coordinator	Air Force Real Property Agency
Strout	Sharon	Register of Deeds	Washington County
Sturgeon	Andrew		Private Business
Sturl	Donna	Executive Assistant	Loring Development Authority of Maine
Suitor	Doug	GIS Coordinator	Maine EPA
Sutton	Rich		Reference Standard
Szakas	Joe		Education
Tabora	George		Government - Federal
Taylor	Horace		Town of Newcastle
Taylor	Steven		Government - Federal
Taylor	Helen		Gray
Therrien	Christine	Town manager	Town of Madawska
Thibeault	Louise		Brunswick
Thomas	Allan		Veazie
Tinder	Jim		Stoneham
Tiner	Ralph		Government - Federal
Tingley	Kevin	CEO	Town of Houlton
Tolman	Andrew		Government - State
Tomah	Tony	Natural Resources Director	Houlton Band of Malisset Indians
Tormoehlen	Barbara		Government - Federal
Touhill	Jamie		MEGIS
Trehy	Susan		Kappa Mapping
Trepanier	Elisa		Windham
Trepanier	Ron		Tax Assessment Service?
Trice	Elizabeth	Grants & Special Projects Coordinator	Cumberland County

Trinko	Tara		NOAA
Tucker	Sarah	Assessor	Bethel
Turner	Mark	Service Hydrologist	NWS Caribou
Tuttle	Cynthia	Assessor	Fairfield
Upham	Jim	City Planner	Bath
Valentine	Vinton	Director of GIS	USM
Van Tuinen	William	Assessor's Agent	Van Tuinen Assessment Services
Van Tuinen	Jacob		Van Tuinen Assoc.
Varney	Susan		Wiscasset
Vashon	Mike	Town Manager	Vassalboro
Vaughan	Taylor	GIS Planner	Knox County Emergency Management
Venno	Sarri		Maliseets Tribal
Venno	Sharri	Environmental Planner	Maliseets Tribal
Violette	Hugh	GIS Planner Forester	Orion Timberlands
Voyer	Ray	GIS Coordinator/Res. Inv. Specialist	USDA Natural Resources Conservation
Walsh	Matt		US Army
Walters	Dan	Geospatial Liaison	USGS
Walton	Joan		Regional Councils
Wang	Binke		Government - Tribal
Wang	Chunzeng		UMPG
Ward	Mark		Bar Harbor
Ward	James	GIS Coordinator	LEWISTON
Wardwell	Jennifer		Klein Schmidt
Wark	Richard	Fire Chief/EMA Director	Castle Hill-Chapman-Mapleton
Watts	Bob		Town of Boothby
Webster	Maynard		New Sharon
Weed	Steven	Assessor	Town of Bar Harbor
Weeks	Robin		Somerset County
Wefel	Walther		Private Business
Weston	Aaron		James W. Sewall
Westrom	Mark		Sagadahoc County
White	Michael	President	Dirigoo Spatial Systems
White	Robert	E 911 Spatial Database Manager	MEGIS
Whynot	Lisa		Government - State
Widmer	Glen		Montville
Wiggins	Julian		Plisgaadn Day Land Surveyors
Wight	David	Public Works	Old Town
Wilkins	Bruce	Consulting Forrester	Woodlot Management Services

Willard	Don	Town Manager	Town of Raymond
Willauer	David		Regional Councils
Williams	Kent		Government - Federal
Wilson	Lawrence	Water Superintendent	City of Ellsworth
Wilson	Doreen	Assistant Planner	Topsham
Woods	Tess	Third Selector	Government - Municipal
Wood	John		Lyman
Woodsworth	Pam		Government - County
Wormstead	Sherri J		Government - Federal
Worthley	Robert		Town of Anson
Wright	Jed		Government - Federal
Yattaw	Cherie		St. George
Young	Joseph	Floodplain Mapping Coordinator	Maine State Planning Office
Young	Mike		Phippsburg
Youngs	Thea		Island Institute
Zeigler	Jannelle	Tax Collector	
Ziegler	Vern		Town of Islesboro
Zilman	Donald	President	UMPG