

Maine GeoLibrary Board
GIS Strategic Plan and Integrated Land Records Information System
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=mYgDWShUtJCEpX2cUAXGQ_3d_3d

and encouraged all to spend a few minutes completing it. Lastly, he encouraged all to initiate a dialogue on the new 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

- 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).

- ▶ 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
 - ▶ Higher resolution/more accurate Digital Elevation Model
 - ▶ Need seamless, statewide 2' contours
 - Road centerline data
 - ▶ Road centerline data with addressing is needed for the state and must be maintained on a regular basis
 - ▶ E911 road centerline files and DOT data must be made compatible
 - Boundary data
 - ▶ Accurate town boundaries (involve surveyors)
 - Hydro data
 - ▶ Stewardship is needed for the National Hydro Data
 - General data comments
 - ▶ 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)
 - ▶ LURC data needs to be placed on the GeoLibrary website. It is currently available, but only after LURC is contacted directly
 - ▶ More timely data is needed for utilities
 - ▶ 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
- **SWOT Analysis**

The group then did a SWOT 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
 - ▶ The GeoLibrary Board communication is slow (i.e. website is too slow to be updated)
 - ▶ There is a general lack of self promotion by the Board
 - The GeoLibrary Board doesn't have enough funds
 - Better representation
 - ▶ There needs to be emergency management, county and industrial and forest land owners on the Board
 - ▶ Surveyor representative is needed
 - ▶ 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 edgematching 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 is 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
- geolD (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 georeferenced, 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 "crowdsource" 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 indispensable 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 floodzone?
- 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

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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.

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