

**Maine GeoLibrary Board**  
**GIS Strategic Plan and Integrated Land Records Information System**  
**Information Gathering Forum Notes**  
**South Portland, Maine | May 7, 2008**

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**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=mYqDWShUtJCEpX2cUAXGQ\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=mYqDWShUtJCEpX2cUAXGQ_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](mailto: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
    - 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

- ▶ 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 program is needed to provide a better method for data updates including requiring regular updates of parcel data.
      - ▶ Have a requirement that all data be shared through one website. They would like a central place to house local data.
      - ▶ 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.
      - ▶ Develop an established methodology to notify the Maine geospatial community when data updates are available.
      - ▶ Requiring metadata for all data prior to it being posted is a barrier to those wishing to post their data.
      - ▶ Better support of CADD data is required.
      - ▶ A category of data or an application that uses data that triggers regulation would be extremely helpful to those in the real estate industry.
      - ▶ 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?
- **SWOT Analysis**

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

- **Strengths**
  - o Providing orthophotos for the state.
  - o Making data available to the public.
  - o Providing the parcel mapping grant was good, but too little.
  - o Development of standards.
  - o 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.
  - o Good participation across the industry, but need communication from the participants.
  - o Public/non-proprietary.
  - o Range of data types served (ArcGIS, Integraph, shape files, etc.)
- **Weaknesses**
  - o Loss of parcel mapping grant program.
  - o No provision for long term operational or program related funding
  - o The federal government is a large stakeholder in GIS in Maine, but there is no federal government representative on the Board.
  - o 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.
  - o GIS in general and Board products are not user friendly enough.
  - o 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**
  - o Use Google Earth or Virtual Earth to make applications easier to use.
  - o Encourage the training of college and high school students on the use of GIS and the data.
  - o Publicize how the bond’s funds were spent by the Board and the benefits it brought. (Mention Google Earth, etc.)
  - o Work more with the State CIO and have him talk as much as possible about GIS.
  - o Take advantage of current interest in GIS and the establishment of an integrated land records information system by Registries of Deeds.
  - o Get data to schools to use.
- **Threats**
  - o Lack of continuing funding.
  - o Anonymity of Board.
  - o Lack of branding of Board versus MEGIS.
  - o Potential users are technologically overwhelmed.
  - o 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](http://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.

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