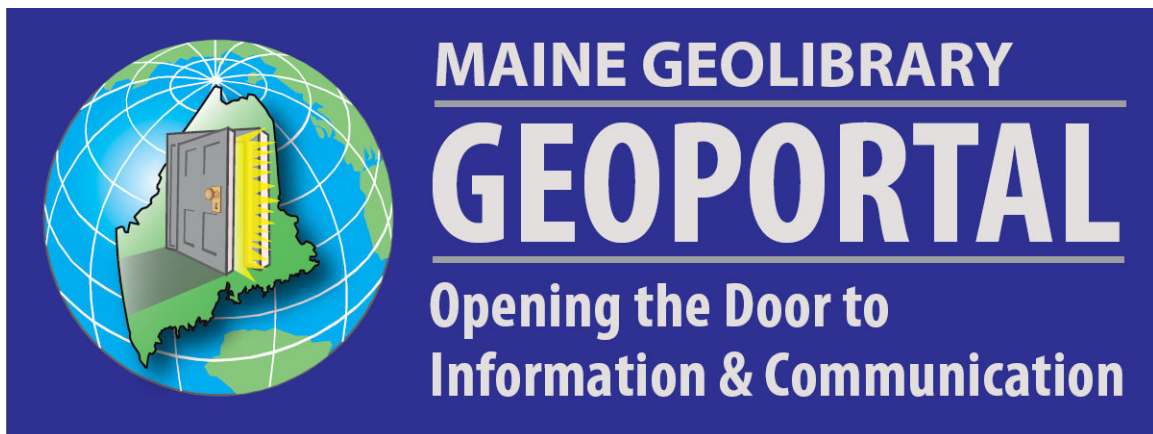# Maine Library of Geographic Information
2007 Annual Report to the Legislature
and
Joint Standing Committees on
Natural Resources and State and Local
Government

Table of Contents **page**

This Maine Library of Geographic Information Annual Report for calendar year 2007 has been prepared in accordance with 5 M.R.S.A. §2003(I)(L).

Acronyms & Selected Definitions

Board	Board of directors for the Maine Library of Geographic
MLGI	Information
	Maine Library of Geographic Information
GeoLibrary	Common name for Maine Library of Geographic Information (MLGI)
GIS	Geographic Information System
MEGIS	Maine Office of GIS
NGO	Non-Government Organization
Orthophotograph	Unlike a standard aerial photograph, relief displacement in orthophotos has been removed, so that features are displayed in their true ground position. This allows for the direct measurement of distance, areas, angles, and positions. Also, an orthophoto displays features that may be omitted on a standard map.
Resolve 23	Legislative committee that drafted the plan that resulted in the MLGI
CIO	Chief Information Officer for the state

1. GEOLIBRARY

The Maine Library of Geographic Information ("the GeoLibrary") is a partnership of public and private stakeholders created by the Maine Legislature to operate a coordinated, cost effective electronic gateway providing access to data custodians' public geographic information.

At present, the GeoLibrary has no staff or operating budget and relies on the Office of Information Technology for administrative and operational support. The GeoLibrary received bond funds totaling $2.3 million in 2003 to start its work on parcel data. It was not successful in obtaining either operating funds or additional bonds for development in 2005 or 2007. **The initial bond money is nearly depleted, and additional sources of funding are vital if the GeoLibrary is to continue its mission. The Geolibrary's funding needs are detailed on page 5.**

The <u>mission</u> of the GeoLibrary is to create an electronic gateway to public geographic information, and to expand and promote the value of geographic spatial data through widespread distribution and innovative use for the benefit of Maine's citizens.

The GeoLibrary's <u>vision</u> is to provide state-of-the-art, comprehensive, and ever expanding access to public geospatial information and services, and to facilitate the availability of geographic information collections and access for all citizens. This vision encompasses:

- the development and subsequent maintenance of an Internet-based GeoLibrary Portal. This portal will enable discovery of and access to spatial data held by public and private sources. It utilizes nationally recognized standards and techniques that permit these data to easily be combined and aggregated for many uses
- the stewardship of priority statewide spatial datasets and the associated technology essential for sharing geographic data ensuring that State data is available, up to date and accurate
- the design and implementation of appropriate spatial data standards to allow it to be used for multiple purposes
- facilitating the modernization and consistent GIS development of local government land records to make them more accessible and usable by businesses and citizens of Maine
- support for smart growth and growth management with datasets and techniques that enable state/county/municipal governments to effectively plan land use, location decisions, and site designs in a way that will minimize negative impacts on the social, economic and environmental health of Maine
- multi-organizational data-sharing that results in significant savings in the cost of creating and maintaining geospatial data
- budgeting that prioritizes the strategic importance of geospatial information, its maintenance and dissemination

- promoting innovative uses of public geospatial information that fosters economic development
- Implementing education and outreach programs that advocates for the further development of Maine as a national center for GIS research, education, and industrial growth.

The Board has identified four areas of Strategic Focus (SF) to realize its mission and vision:

SF1. the development and implementation of statewide data standards to ensure data quality and to enable common use;

SF2. the development of a web-based distribution system to facilitate access to statewide data holdings;

SF3: the provision of funding and management for high priority data and database development to support community and regional planning, smart growth and community preservation;

SF4: the provision of coordination, outreach and education in support of better public use of geospatial data and to maintain and enhance Maine's position as a national center for GIS research, education and industrial growth.

2. 2007 GOALS AND ACCOMPLISHMENTS[1]

In 2007 the GeoLibrary undertook the following projects or initiatives in support of its strategic focus:

SF 1. To support the development and implementation of statewide data standards to ensure data quality and to enable common use, the GeoLibrary Board:

- Maintained data standards for municipal parcel data submitted to the GeoLibrary or developed with GeoLibrary managed funds.
- Collaborated with MEGIS and the state agency GIS Stakeholders Group[2] to ensure cooperation and encourage efficiencies regarding mutual goals.

SF2. To support the development of a web-based distribution system to facilitate access to statewide data holdings:

- The GeoLibrary is constructing an enhanced web-based portal as its "front door" for public access to statewide data and to facilitate the development of a virtual GIS network linking statewide geospatial data holdings. This project is under construction and will be on line in early 2008

---

[1] The GeoLibrary's fiscal year ends June 31. All year references, however, are to the calendar year.

[2] The GIS Stakeholders Group is a group of state agency representatives that advises the CIO. It superseded the GIS Executive Council in February of 2007.

SF3. To support the provision of funding and management for high priority data and database development to encourage community and regional planning, smart growth, and economic development the GeoLibrary Board:

- Continued implementation of a $3.2M project in conjunction with the Federal government to produce digital orthophotography for Maine's populated areas. Areas now available and those that will be available in 2008 are presented in Attachment B. See Attachments C and D for samples of orthophotography at varying scales. Based on the Geolibrary's on-line survey and questionnaire of users of the Geolibrary orthoimagery, 43% of users are private sector companies, 30% are the general public, 23% are federal, state or municipal agencies and 4% non-profits or others. The following comments were submitted by Maine businesses. A surveying company:" By using your information we reduce travel time to each site as well as time spent in the field." Site design consultants: "We use orthophotos available on the site all the time for pre-project planning and for overview of site area and general viewing." A large grocery chain: "(We) use the imagery to verify household counts in certain zip codes and pull imagery into a GIS so they can be shown with our town boundary files."
- Continued a grant program to digitize property tax maps with awards varying from $1,000 to $10,000. The first round of awards to 44 towns has been completed. The second round of awards to 29 towns is underway with 25 towns having submitted data to date. See Attachment A for the parcel grants award lists. In 2007, as in past years, the Geolibrary staff received numerous inquiries from municipalities about future funding for grants for digital parcel data. A number of Maine municipalities were contemplating setting up their own GIS systems. They reported that receiving a Geolibrary grant to help automate their parcel data would have been just the spur needed to proceed with their own investment.

SF4. To support the provision of coordination, outreach, and education in support of better public use of geospatial data and to enhance Maine's position as a national center for GIS research, education and industrial growth, the GeoLibrary:

- Provided $15,000 in direct funding to help win a federal National Spatial Data Infrastructure grant of $50,000. This grant will have two objectives. First, to update and enhance the GeoLibrary Strategic Plan and bring it into alignment with the goals of the National States' Geographic Information Council (NSGIC) Fifty States Initiative. Second to recommend a conceptual framework and functional specification for an Integrated Land Records Information System for the State.

- Staffed a booth at the 2007 Maine Municipal Association convention at the Augusta Civic Center. This year's themes were encouraging municipal use of free GIS data and viewers and the general promotion of the municipal GIS. Over 200 brochures promoting the Geolibrary were distributed and it is estimated that 75 people visited the booth.

3. 2008 PRIORITIES AND INITIATIVES

The projects outlined in the GeoLibrary's previous request for bond funding each move the stakeholders, public and private, closer to the goal of ready, accurate data and information that is essential to planning for Maine's future. Pending funding, the GeoLibrary Board plans to undertake the following projects and initiatives in support of its strategic focus.

There is a dearth of statewide and regional spatial data sources upon which planners and the public can depend, let alone one that is easily accessed. The best available data is:
        1) Data developed for individual towns, but cannot be aggregated across a region
        2) Data being developed by the GeoLibrary Board and housed by MEGIS, or
        3) Data which will become available through the GeoLibrary's portal in 2008
The following projects will greatly expand the portfolio of spatial planning data.

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	

Priority 1: Complete the Organized Townships Orthophoto Project and begin the first update cycle

Digital orthophotos are aerial photographs that have been processed to function as "photomaps", having the scale and the measurement characteristics of a map with the qualities

and characteristics of a photograph. Because of their "bird's eye view", orthophotos make it easy to recognize and understand the relationship of objects on the ground. They are widely used as a standard base map on which other layers of information can be viewed and analyzed, and are also a source for digitizing ground features to create GIS data layers for specific functions including road centerlines, building footprints, farm fields, forest types, eelgrass beds and utility and road corridors. Change analysis can then be conducted using orthophotos from different years.

To support the management of high priority data for community and regional planning, smart growth, and community preservation, the GeoLibrary implemented a $3.2M project in conjunction with the Federal government to produce digital orthophotography for the state's organized townships. The GeoLibrary's effort realized significant savings as the cost of producing orthophotos for individual municipalities is dramatically greater than the cost of a single, statewide project. New bond funding would allow the completion of this project for the entire state as well as the beginning of an update cycle. See attachment B for those areas covered to date.

This initiative has been extremely well received. Following is a representative evaluation:

> "Members of the Maine's Cooperative Forestry Research Unit, a consortium of Maine's forestland owners representing over 7.5 million acres, are benefiting directly from the GeoLibrary orthophoto program. The digital elevation model (DEM) data that was created with the orthophoto program is currently being used to produce depth to water table maps for over 5 million acres across the state. When complete, these maps will improve forest management by reducing road construction costs, improving harvest operations, enhancing silviculture planning, and identifying wetlands. As much of the forestland being mapped is in northern Maine, development of these maps would be greatly improved by additional photography and the underlying DEM data being completed in areas of northern Maine that have not yet been covered." Robert G. Wagner, Professor and Director, Cooperative Forestry Research Unit, the University of Maine.

Priority 2. Continue the Municipal Grants Program for Digital Property Maps

Also known as cadastral maps, property maps land boundaries describe and record ownership and taxation. They are one of the most important local government information assets, forming a fundamental base for many municipal activities. Although GIS parcel data cannot replace detailed ground surveys, the data assist municipal officials with accurate property tax assessment, planning and zoning.

Furthermore, a digital cadastre provides the most efficient method of collecting and collating geospatial data for infrastructure development and regional planning. A grant program has been implemented using bond funds to digitize property tax maps with awards to municipalities varying from $1,000 to $10,000, and requiring a minimum 1-1 municipal match for each dollar awarded. The first two rounds of awards are complete with 120 municipalities applying for, and 74 receiving, awards. The Board's priority is

to meet municipal demand by doubling the grant monies available under this program. See Attachment A for a list of those towns that have received grants thus far.

Priority 3. Build Data Conformity and Validation Software Tools.

Data conformity and validation software tools allow the GeoLibrary staff to determine rapidly and efficiently if data submitted by a collaborating entity meets the Board's standards for that data layer. Current software provides very limited tools, and non-standard data is of limited use. Consequently, GIS users, especially within state government, have to invest significant time attempting to evaluate data quality. New tools will save staff time and scarce funding so that if data passes the improved conformity test it can move forward expeditiously for inclusion in the GeoLibrary, and if a submission fails, it can be returned to the supplier with an explanation so that its deficiencies can be quickly addressed.

Priority 4. Build a Statewide GIS Network

The Board will develop a virtual network of GIS nodes with affiliated entities such as municipalities, NGOs, etc., linked through common standards such as the Open GIS Consortium (OGC) standards for web holdings, and by network through the newly constructed GeoLibrary portal. The strategy is to implement a grant program whereby organizations that have GIS holdings make the information available using OGC standards. Preliminary plans have the grant program implemented in two tiers.

> Tier A – Organizations that already have web enabled GIS data holdings would be eligible for grants up to $5000 to make their GIS data holdings OGC compliant and thus viewable through a variety of desktop GIS applications (e.g. ESRI, MapInfo, Autodesk).
> Tier B – Organizations that have GIS holdings that are not web enabled would be eligible for grants up to $15,000 to implement a web-based GIS server and to provide assistance with making their GIS holdings OGC compliant.

Priority 5. Update Land Use/Land Cover

Land Cover mapping indicates the dominant vegetation or ground cover within a particular 5m x 5m square grouped into areas of two acres or more. The GeoLibrary provided partial funding for the development of a recently completed Maine Land Cover dataset that is tightly integrated with Federal efforts to map land cover and imperviousness nationwide with tremendous cost savings. Data users include:

- biologists modeling species habitat for population management
- public and private planners studying growth and site location
- environmental specialists looking at storm water issues
- forestry planners studying forest composition and change
- emergency management planners
- meteorologists modeling air emissions.

These users' tasks can be carried out in a more cost effective manner through remote sensing than through field mapping, with a statewide effort providing an added level of consistency. Updates every 2 to 5 years to assess change is key and with the last effort completed in 2007 there should be an update scheduled for 2008.

Priority 6. Develop Comprehensive Conservation Lands Maps

The State does not now have an overarching mechanism to track conservation lands that are in state, federal, municipal and private ownership. Efforts are underway to address this gap, but without additional resources the gap cannot be closed. Funds will be used to update the current conserved lands/public access data and to develop a mechanism to increase and update the data annually. Efforts will include coordination with a steering committee, discovery and review of documents held by state and local entities, input of attributes into a database, geolocation of sites as necessary, development of FGDC[3]-complaint metadata, and a mechanism to update the database.

The group of stakeholders interested in the status and quality of conserved lands in Maine is large and varied, including:

- legislators, municipal officials, planners, policy makers, the public, and members of non-profit conservation groups who need to assess current programs in order to invest resources effectively;
- permit reviewers for conserved lands who, under Maine statutes and rules, need to know the location and attributes including size, location, type of easements or restrictions, habitat types and viewsheds to analyze the potential effects of new development;
- conservation organizations working under new policy directives such as the Maine Coast Protection Initiative (MCPI) and the Coastal and Estuarine Land Conservation Plan who are challenged to choose projects that address multiple objectives such as public access, conservation of working lands and protection of high priority habitat types. Because each of the seventy MCPI partners has committed to a new framework for strategic land conservation, a variety of public and private conservation organizations would benefit strongly from better evaluative tools; and
- the increasingly more sophisticated eco-tourist who desires additional information about conserved lands beyond simple location information. With more visitors using the internet, a web-based coastal access guide would complement Maine's efforts to claim additional market share of nature-based travelers.

Priority 7. Assist with Digital Flood Insurance Rate Map (FIRM) Production

Recent flood losses have made the public and government more aware of the significant hazards and costs of occupying land along our nation's coastline and rivers. Decisions

---

[3] Federal Geographic Data Committee

about where and how to develop in these areas have often not reflected the fact that floods have historically caused more damage and economic loss in the United States than any other type of natural disaster. It is therefore necessary that land use and mitigation planners, state and local economic and community development personnel and local officials be able to guide development in such a way that will increase sustainability while reducing losses.

Congress implemented the National Flood Insurance Program (NFIP) in 1969 to provide flood insurance in those communities that join the program and adopt both the FIRMs and FEMA's floodplain development standards. The flood hazard data and Flood Insurance Rate Maps (FIRMs) created by the Federal Emergency Management Agency (FEMA) are critical tools to help ensure the appropriateness and sustainability of new and re-development occurring in flood hazard areas. Congress has authorized a Flood Map Modernization Program to update the country's aging inventory of FIRMs to reflect changes that have occurred in watersheds and improvements in mapping technologies. The updated digital maps more accurately reflect hazard areas for floodplain management / land use purposes and for flood risk zones for insurance purposes. The digital FIRMs, will:
- better guide economic development, mitigation planning and emergency response;
- provide better information to lenders, insurance agents and the public on issues relating to flood risk and flood insurance; and
- reduce the economic impact of flooding.

The initiative also promotes stronger state partnerships in an effort to create efficiencies in the mapping process. State participation in Flood Map Modernization management and mapping activities help focus funding on areas of state priority and maximize the utilization of mapping funds. The Maine State Planning Office's Floodplain Management Program is partnering closely with FEMA on the management of Maine's Map Modernization activities. The Maine Office of GIS has been collaborating with SPO and FEMA to digitize flood maps in two counties.

However, MEGIS lacks the capacity to accomplish this activity for the entire State. The average age of Maine's FIRMs at 19 years is significantly older than the national average and nearly half of the State's FIRMs lack detailed flood hazard data. These two factors dramatically increase the cost of creating updated Maine's digital FIRMs. Federal Map Modernization funds now received by Maine are not adequate for the State to meet FEMA's metrics. Increasing the State's contribution will have a positive effect on the level of federal funding and will allow mapping contractors to supplement the mapping currently being done by MEGIS. Without additional funds, Maine will not meet the national goals of the Flood Map Modernization initiative and will leave Maine citizens, communities and professionals with outdated maps that do not accurately reflect the flood hazard and risk zones.

Priority 8. Create a Zoning Maps Grants Program

A comprehensive regional or statewide zoning data layer is a key component of economic development, development tracking, build-out analyses, and modeling of zoning options used by realtors, developers, business development groups, conservation organization and municipalities. While limited regional composites of zoning data have been made, comprehensive zoning data do not exist on a statewide basis. The Board would fund a program of grants modeled on the Parcel Grants Program to upgrade and submit digital zoning to the GeoLibrary in order to begin creation of a statewide zoning data layer. The relevant data falls generally into two types:

- Shoreland zoning data from each community would be automated and submitted for comparison to an established standard and insertion into the GeoLibrary. Because it is created by State statute and based on natural features, shoreland zoning is comparatively uniform. This part of the project would therefore lend itself best to a regional approach.
- General Municipal Zoning would be automated with zoning areas represented as polygons with attributes describing the municipal zoning classification. Maine municipal zoning does not have a uniform set of zoning codes. Therefore, as with the digital parcel data, standards will need to be developed by the Geolibrary Board to guide data development. A State standard would not involve removing local codes from the data but would include both municipal and standard zoning information. Again, data from each community would be automated and submitted to the State for comparison to the standard and insertion into the Geolibrary.

Priority 9. Development Tracking

The Board will work with SPO and MEGIS to appoint a development tracking implementation committee, tasking the group with coordinating data collection and pilot projects in support of the Development Tracking Steering Committee Final Report dated March 2005.

FINANCIAL EXPENDITURES THROUGH 2007

The GeoLibrary Board is composed of volunteers, and, as noted, its staffing is funded by arrangement with OIT. The Board was given authority to administer $2,300,000 in State bond funds for GIS capital investments in November 2002. The Board has entered a series of cooperative agreements with Federal agencies to garner the required $1.6 million federal match for the approved bond funds. Total Bond expenditures follow.

Bond Total	$2,300,000.00
Amount expended through 12.31.07	$1,818,717.05
Amount encumbered by contract through 12.31.07	$ 383,118.45
Total expended or encumbered to 12.31.07	$2,201,835.50
Bond Funds Remaining	$ 98,164.50

The Board 's 2006 Annual Report noted that at current levels of funding the GeoLibrary will not be able to sustain its mission. The message has not changed. The GeoLibrary Board's request for new bond funding in 2007 to support a GIS development priority list incorporated in the 2006 annual report was not approved. Additionally, the GeoLibrary Board continues to try to operate without dedicated staff or a funded operating budget. It has relied on the largess of the Office of Information Technology and its subsidiary MeGIS to provide these at the expense of other state agency programs.

5. ORGANIZATION

5.1 Legislative Background

In 2001, the Legislature instructed the State Planning Office to convene what came to be called the Resolve 23 Steering Committee to study the use of GIS in statewide strategic planning. The Committee developed a Needs Assessment, the conclusion of which recommended the GeoLibrary, and its method of governance, and strategic focus. The Legislature and Governor concurred, and the Maine Library of Geographic Information Act 5 M.R.S.A. Section 2001 *et seq* became effective April 2002.

5.2 Governance

The GeoLibrary is governed by a board of directors, and its members are appointed by the Governor, the President of the Senate, the Speaker of the House, the Chancellor of the University of Maine System, the Director of the State Planning Office, and professional organizations representing major stakeholder groups. The Board is independent, term-limited (with the possibility of reappointment) and drawn from the public and private sectors. It is therefore uniquely positioned to represent all stakeholders fairly and in a way most likely to foster efficient cooperation and mission success. The current membership is:

Representing GIS Vendors
James H. Page, President / CEO, James W. Sewall Company

Representing the UMaine System
Marilyn Lutz,
Director, Library IT Planning, University of Maine

Representing GIS Vendors

Representing Municipal Government

Vacant

Gretchen Heldmann
City of Hampden

Representing Utility Interests
Gary Duplisea
Bangor Hydro-Electric Co.

Representing Municipal Government
Gregory J. Copeland
City of Biddeford

Representing Environmental Interests
Dan Coker, Vice-Chair
The Nature Conservancy

Representing State Government
David. M. Blocher, representing
Richard B. Thompson, Chief Information Officer

Representing the Public
Vacant

Representing State GIS Functions
Elizabeth Hertz
State Planning Office

Representing Statewide Association of Regional Councils
Ken Murchison, GIS Specialist
Northern Maine Development Corporation

Representing the Commissioner of Administrative and Financial Services
Nancy Armentrout
Office of Information Technology

Representing Statewide Association of Counties
Vacant

Representing Real Estate & Development Interests
William H. Hanson, Esq., Chair
Rudman & Winchell, LLC, Bangor

Representing State GIS Interests
Christopher Kroot
Dept. of Environmental Protection

The GeoLibrary Board meets monthly. Agendas and meeting notes can be found on the GeoLibrary website: http://www.maine.gov/geolib/. The Board is organized into three standing subcommittees:
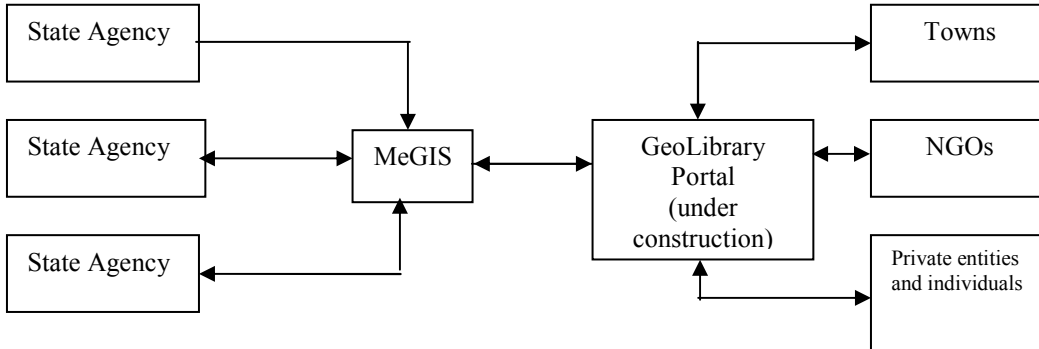   A. Finance Committee, with responsibility for:
- budget oversight;
- recommending budget or other financial actions to the Board for approval;
- primary interaction with outside entities on financial issues.
    B. Policy Committee, with responsibility for:
- policy oversight;
- recommending policy adoptions and amendments to the Board;
- memorializing approved GeoLibrary policies;
- primary interaction with external entities on policy issues.
    C. Technical Committee, with responsibility for:
- advising the Board on all technical matters;
- oversight of all Board projects;
- primary interaction with outside entities on technical issues.

5.3 Library Structure

The GeoLibrary is staffed by agreement with the Office of Information Technology (OIT). MEGIS manages and operates the GeoLibrary website, GIS database and data

access facilities. The GeoLibrary's portal is the central node in a distributed system linking its stakeholders via the web as well as providing the central point of connection between state agencies and the public and other public entities. Schematically:

DATA FLOW

State Agency		MeGIS		GeoLibrary Portal (under construction)		Towns
State Agency						NGOs
State Agency						Private entities and individuals

ATTACHMENT A1:

Parcel Grants Round 1 Award List

Standard Grants: 54 towns applied, 21 awarded	Rapid Grants: 27 towns applied, 24 awarded
Cape Elizabeth	Anson
Casco	Auburn
Ellsworth	Bath
Falmouth	Biddeford
Freeport	Bridgton
Gorham	Brooksville
Gray	Casco
Islesboro	Castle Hill
Jackson	Chapman
New Gloucester	Cumberland
North Yarmouth	Denmark
Norway	Fort Kent
Oxford	Harrison
Paris	Kittery
Raymond	Madawaska
Rockport	Mapleton
Rumford	Mariaville
South Portland	Raymond
Thorndike	Skowhegan
Unity	Stonington
Woodstock	Sweden
	Verona
	Woodland
	Yarmouth

ATTACHMENT A2:
Parcel Grants Round 2 Award List

Standard Grants: 36 towns applied, 26 awarded

Arrowsic	South Berwick
Bethel	Standish
Bowdoin	Topsham
Bowdoinham	Turner
China	Vassalboro
Dover-Foxcroft	Waldoboro
Friendship	West Bath
Hermon	Winslow
Lincoln	
Levant	Rapid Grants: 3 towns applied, 3 awarded
Lovell	Clifton
Lyman	Phippsburg
Ogunquit	Whiting
Readfield	
Richmond	
Saco	
Searsmont	
Searsport	

ATTACHMENT B: Map of Orthophotography Coverage

Existing & Future
Orthoimagery Coverage
Revised Dec. 2007

Delivered Orthoimagery

USGS Funded Orthoimagery- 2008

Expected Orthoimagery - 2008

Not Funded
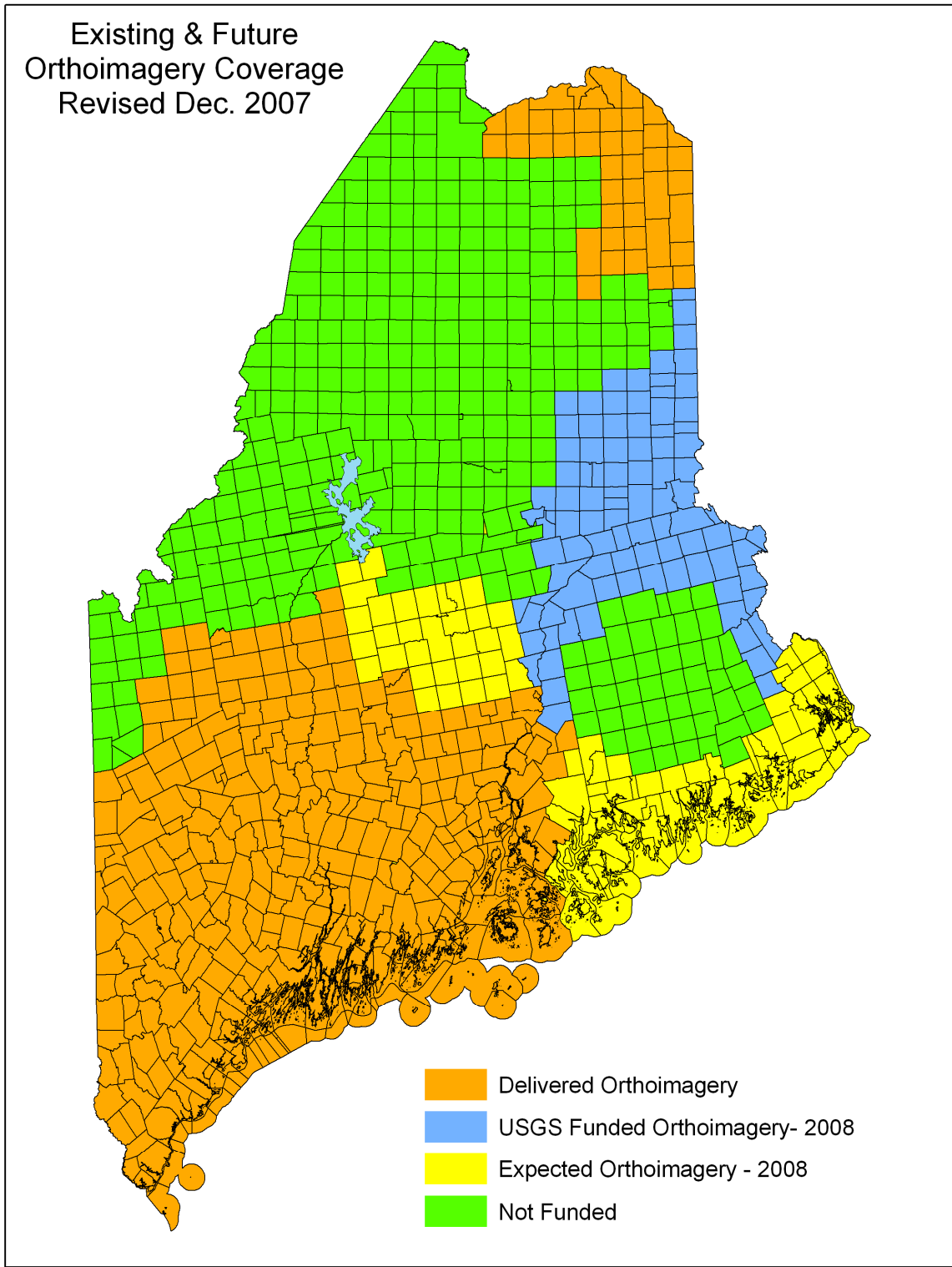
ATTACHMENT C: 1' Orthophotography Sample

1 foot orthophotography sample   1" = 100'

ATTACHMENT D: 2' Orthophotography Sample

2 foot orthophotography sample   1" = 200'