

MAINE STATE LEGISLATURE

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Maine GeoLibrary Orthoimagery Subcommittee

Report and Recommendations

May 24, 2010



Subcommittee:

Dan Walters - Chair, US Geological Survey

Sarah Tucker - Town of Bethel

Tom Marcotte - Maine DOT, Office of Information Technology

Brett Horr - Town of York

Greg Miller - Maine Forest Service

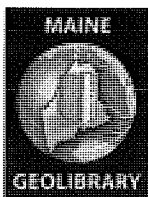
John Root - City of Rockland

Larry Harwood - Maine Office of GIS, Office of Information Technology

Brian Norris - James W. Sewall Company

Ken Murchison - Northern Maine Development Corporation

Sean Gambrel - City of Bangor



GeoLibrary Board

Maine Library of Geographic Information

<http://www.maine.gov/geolib>

July 20, 2010

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The Honorable Senator Seth A. Goodall, Chair
The Honorable Representative Robert S. Duchesne, Chair
Joint Standing Committee on Natural Resources
100 State House Station
Augusta, ME 04333-0100

Dear Senator Goodall and Representative Duchesne:

The Maine Library of Geographic Information ("GeoLibrary") Board was created by the legislature to maintain and develop partnerships to acquire geographic datasets used across all levels of government as well as in the private and nonprofit sectors of our economy. These data sets of map quality aerial imagery, known as orthoimagery, are most economically acquired on a large scale basis with companies which provide aerial photography and related mapping services.

The GeoLibrary has developed a plan to update Maine's orthoimagery that could leverage Maine contributions through matching federal funds (at least a 1 to 1 match). The GeoLibrary Board is pleased to provide complimentary copies of the *Maine GeoLibrary Orthoimagery Subcommittee Report and Recommendations* which outlines this plan. This report is also posted on the GeoLibrary website at <http://www.maine.gov/geolib/>. Implementation of this program would save Maine State and local governments hundreds of thousands of dollars, and would lead to efficiencies in government administration and development planning.

Typically, a single Maine community would expect to pay \$1,000/sq. mi. or more for this type of aerial imagery. By participating in a single large-scale project, a community could obtain the same coverage for less than \$ 150/sq. mi. This cost could be further reduced by taking advantage of partnerships with participating federal entities. For the citizens of Maine to take advantage of these economies of scale and capture hundreds of thousands of dollars in savings, the orthoimagery update project needs a

From the desk of the GeoLibrary Board Chair
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limited amount of matching funds for initiating data acquisition projects. We think the State of Maine should collaborate with other geographic information users to generate funding for this project.

I, and other members of the Board, would appreciate an opportunity to describe the benefits of this initiative to you. We would be pleased to appear before your Committee to answer any questions you may have. Larry Harwood, Staff to the Board, at 207-592-1912 is available to schedule meetings.

Sincerely,

From the desk of the GeoLibrary Board Chair
Gretchen Heldmann, GIS/IT Specialist, Town of Hampden
106 Western Avenue, Hampden, ME 04444
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I. Introduction

The Maine GeoLibrary formed a subcommittee to develop a program that leverages federal, state, local and private funding to provide statewide high resolution orthoimagery on an ongoing basis. The GeoLibrary's goal is to establish a program that will provide this valuable data resource at a lower per square mile cost, at higher resolution and on a more regular schedule than could be accomplished by ad hoc projects of limited geographic area and funding.

A. 2003 – 2005 orthoimagery program

Digital orthoimagery has become the foundation for state, local and private programs across the country. It is an essential data product that is sought after by many organizations and until recently had been acquired by only the state's larger cities and towns. Small towns could not afford orthoimagery leading to a situation of haves and have-nots, higher overall costs for those who could afford it, products of varying resolution, duplication of effort, and a patchwork of products.

With this in mind, the Maine GeoLibrary initiated a statewide project to produce high resolution digital orthoimagery in 2002. The \$3.2M project is by far the largest project undertaken to date by the Maine GeoLibrary Board. The work was completed through a cooperative agreement with the U.S. Geological Survey (USGS). The USGS provided funding and in-kind services totaling \$1.2 M and the U.S. Department of Agriculture provided \$400,000. Maine funded the remainder of the project through a 2002 bond issue.

Large area contracting methods kept the cost to taxpayers as low as possible, improved the availability of standardized, high-quality products, and ensured that all Mainers have access to current orthoimagery for their community. In fact Google uses these data as a major imagery source for Maine in Google Maps and Earth where tens of thousands of Mainers access them each year. *These data have not been updated and need to be refreshed.*

Testimonials from organizations around the state which have used that 2003-2005 orthoimagery can be reviewed at the following link. Samples from the survey are listed in Appendix A.

<http://www.maine.gov/geolib/orthosurveyresults.htm>.

B. 2009 Maine GeoLibrary Strategic Plan

The Maine GeoLibrary was established in 2002 as part of the process to develop a comprehensive strategic plan for GIS in Maine. The \$2.3 M bond request funding the state's share of the 2003 – 2005 orthoimagery project was part of this overall legislative package.

By 2006 much had changed and the Board applied for funding from the USGS Federal Geographic Data Committee (FGDC) Cooperative Assistance Program (CAP) to update the 2002 strategic plan. The Maine

GeoLibrary Board engaged the James W. Sewall Co. to provide a clear strategy for it to pursue. The Board also established a Project Team composed of representatives from the Board and federal, state, county and local government and an independent project manager to oversee the project, provide reviews of submissions, respond to questions and set direction for the project.

Stakeholders were invited to forums across the state to provide input on what needed to be done to improve the use of GIS in their organizations. Various on-line surveys, personal interviews and small work groups were also used to gather information for the plan. The need to “***Establish a program to provide continual updates of digital orthoimagery across the State***” was a recurring theme throughout the data gathering process and ultimately identified as a priority in the strategic plan adopted by the GeoLibrary Board.

II. Process

Subcommittee members were recruited to provide a broad base of technical expertise, ensure that all levels of government and the private sector were represented and reflected the widely varying geographic and demographic characteristics of Maine.

A. *Standards and Specifications*

The subcommittee reviewed technical information published by well known authoritative sources including the USGS and FGDC, and interviewed companies involved in the production of orthoimagery. Documents reviewed included the National Map Accuracy Standards (NMAS), the Content Standards for Digital Orthoimagery, the National Standard for Spatial Data Accuracy (NSSDA) and the model USGS Orthoimagery specification published for the American Recovery and Reinvestment Act Orthoimagery program. The goal of the subcommittee was to pull relevant information from published standards, model specifications and local resources rather than re-invent the wheel.

The documents listed above relate best practices for specifying orthoimagery requirements as well as the standards for judging the quality of the final products relative to these requirements. Important requirements include pixel resolution (ground sample distance), horizontal accuracy, metadata, radiometry, ground collection conditions (e.g., snow, clouds), sun angle, datum, projection, ground control, camera station control, quality control and data delivery.

The required pixel resolution drives the scale of the source imagery which is largely determined by flight height and the scanning methods in film based systems. The flight height and type of camera are the most important to pixel resolution in digital cameras.

The NMAS specifies minimum threshold horizontal accuracies based on the proposed published map scales and a comparison of the deliverable to locations of well defined points on the ground. The NSSDA presents a statistical and testing methodology for estimating the positional accuracy of points in an orthoimagery dataset based on user defined accuracy thresholds. The capacity to achieve specific horizontal accuracies depends on the digital elevation model used, ground control, the aerotriangulation control and methods, the camera calibration (different for digital and film based systems), scanner calibration (not applicable to digital cameras), and quality of the aerial photographs or digital images.

B. Orthoimagery Program Development

Once a review of the state-of-the-art of orthoimagery standards, specifications and processes was complete, the subcommittee turned its attention to the specifics of the Maine program. To stimulate discussion a “straw man” was presented to the subcommittee based on the 2003 – 2005 program. The straw man

proposal was a multi-year orthoimagery program with multiple pixel resolutions and varying update cycles. It drew from the 2003-2005 GeoLibrary project plan that divided the state into town groups with the update cycle (refreshment) of each group being determined by the previously (i.e., 2002) estimated rate of development in Maine. All groups would be covered by 2 foot or 3.3 foot pixel resolution imagery with the same standard as now exists. There would be “buy-up” options for groups of towns to, for example, acquire higher resolution orthoimagery by adding funding.

An additional consideration of the straw man was financial. The goal is to develop a plan that the state and other stakeholders (e.g., USGS, utilities, large land owners) could afford to sustain on an annual basis. Considering this, an annual budget target of approximately \$500,000 was set and average costs per square mile by pixel resolution were assumed.

The subcommittee endorsed the approach, but chose to revisit the development patterns to make sure the groups, pixel resolution and update cycles reflected the current situation. The subcommittee decided to use the following parameters as a measure of change or development:

- Population change 1990 - 2008
- Parcels count change 2001 - 2008
- New residential electric connections 1990 - 2008
- New commercial electric connections 1990 - 2008

The following information was also used to help guide the creation of sectors.

- Location of regional service centers
- Unorganized territory area
- Town and county boundaries

Individual thematic maps were developed and an overall “combination” map was made. After reviewing the maps, the subcommittee adjusted the groups based on the trends shown in the thematic maps. After revision and then further inspection, additional adjustments were requested by the subcommittee and new maps were developed. Regional service centers and county boundaries were also added to the maps at this time. Based on these adjustments, additional changes were made at the final meeting to align some groups with county boundaries to facilitate the potential buy-ups by county groups. The unorganized territories were also broken out into 3 sectors to assist potential vendors with project planning. The final maps are shown in Appendix B.

III. Recommendations

A. Imagery for the Nation (IFTN)

The National States Geographic Information Council is working with the National Digital Orthophoto Program Committee and the FGDC to fund a new nationwide aerial imagery program that will fund, collect and disseminate standardized multi-resolution orthoimagery products on “set” schedules. Local, state, regional, tribal, and federal partners will be able to exercise “buy up” options for enhancements that are required by their organizations.

The Maine program models IFTN and as a result IFTN would clearly support the goals of the GeoLibrary Board. The subcommittee recommends that the Board send a strong letter of support for IFTN to the Maine Congressional Delegation, the Governor’s Office and the FGDC. IFTN will provide a strong foundation for an ongoing Maine program.

<http://www.nsgic.org/hottopics/imageryforthenation.cfm>

B. National Agricultural Imagery Program (NAIP)

The National Agriculture Imagery Program (NAIP) acquires aerial imagery during the agricultural growing seasons in the continental U.S. Aerial Imagery is acquired and orthoimagery is produced every three year with the next acquisition scheduled for 2012. NAIP provides one meter, leaf-on, color orthoimagery with a horizontal accuracy that matches within six meters of photo-identifiable ground control points. Currently the US Geological Survey provides funding to ensure all nonagricultural areas within a state are acquired. Near color infra-red is a buy up option.

Although leaf-on, the NAIP imagery has value for many organizations including those in the forest products industry. In addition, the imagery provides a valuable record of ground conditions that will supplement Maine’s program. The subcommittee recommends that the GeoLibrary monitor and support the NAIP program and proactively engage stakeholders about this program well in advance of the scheduled acquisition.

http://www.apfo.usda.gov/Internet/FSA_File/naip_2010_infosheet.pdf

C. Basic program

Past experience has demonstrated that cooperative efforts to purchase statewide orthophotography is far more cost efficient than individual towns and organizations purchasing smaller areas of aerial coverage. A large portion of the fixed cost for producing orthophotography is developing a contract, planning the project and getting a pilot and plane off the ground. This program is designed to meet the minimum needs of state government on a statewide basis, but allows municipal governments to purchase upgrades to meet their needs on an incremental cost basis, thereby saving them significant dollars. Groups of towns (e.g., counties) will realize the greatest cost saving. They will realize savings from the economies of scale in addition to the funds allocated to the basic orthoimagery program by the state and other large stakeholders. Furthermore, by providing quality control and contract administration centrally through the state, a higher overall quality product will result. The following describes the basic state program and buy-up options recommended by the subcommittee.

The subcommittee recommends a competitive process that will retain vendors for a contract period of 5 years assuming good performance.

After completing the analysis, examining a number of scenarios and in light of the \$500,000 annual budget target, the following basic program parameters were set by the subcommittee:

- The state is divided into 11 groups each of which would be flown on a rotating cycle of either 3 or 5 years
- The base resolutions chosen were 2 foot and 3.3 foot
- The imagery would be natural color and flown leaf-off in the spring without snow
- Airborne GPS and IMU will be used for control
- The 10 meter USGS DEMs will be used at a minimum for orthorectification of base products. If available more accurate elevation data should be used (NOTE: This may increase the per unit cost)
- The content of USGS base orthoimagery specifications will be used as a guide for all contracts

The following maps and documents illustrate the program. The project spreadsheet illustrates the program over a 15 year period assuming orthoimagery production costs of \$30/square mile for 3.3 foot pixel resolution and \$70/square mile for 2 foot pixel resolution orthoimagery.

- Map A1 shows the town groups on a town basis.
- Map A2 shows the town groups on a county basis.
- Map B - towns that will be flown every 3 years with 2 foot pixel resolution followed by a list of the towns
- Map C - towns that will be flown every 5 years with 2 foot pixel resolution followed by a list of the towns
- Map D - areas that will be flown every 5 years with 3.3 foot pixel resolution

As an example, referring to the map and table, groups 1 and 4 would be flown in year 1 at a cost of \$179,830 and \$210,420, respectively. Group 1 would be flown again 3 years later, but group 4 would not be flown again until 5 years later.

1. Project Spreadsheet - 15 year project cycle

Groups 1 through 3 - leaf-off, color, 2 foot pixel resolution with 3 year update cycle

Groups 4 through 8 - leaf-off, color, 2 foot pixel resolution with 5 year update cycle

N1 through N3 - leaf-off, color, 3.3 foot pixel resolution with 5 year update cycle

All work done to National Map Accuracy Standards

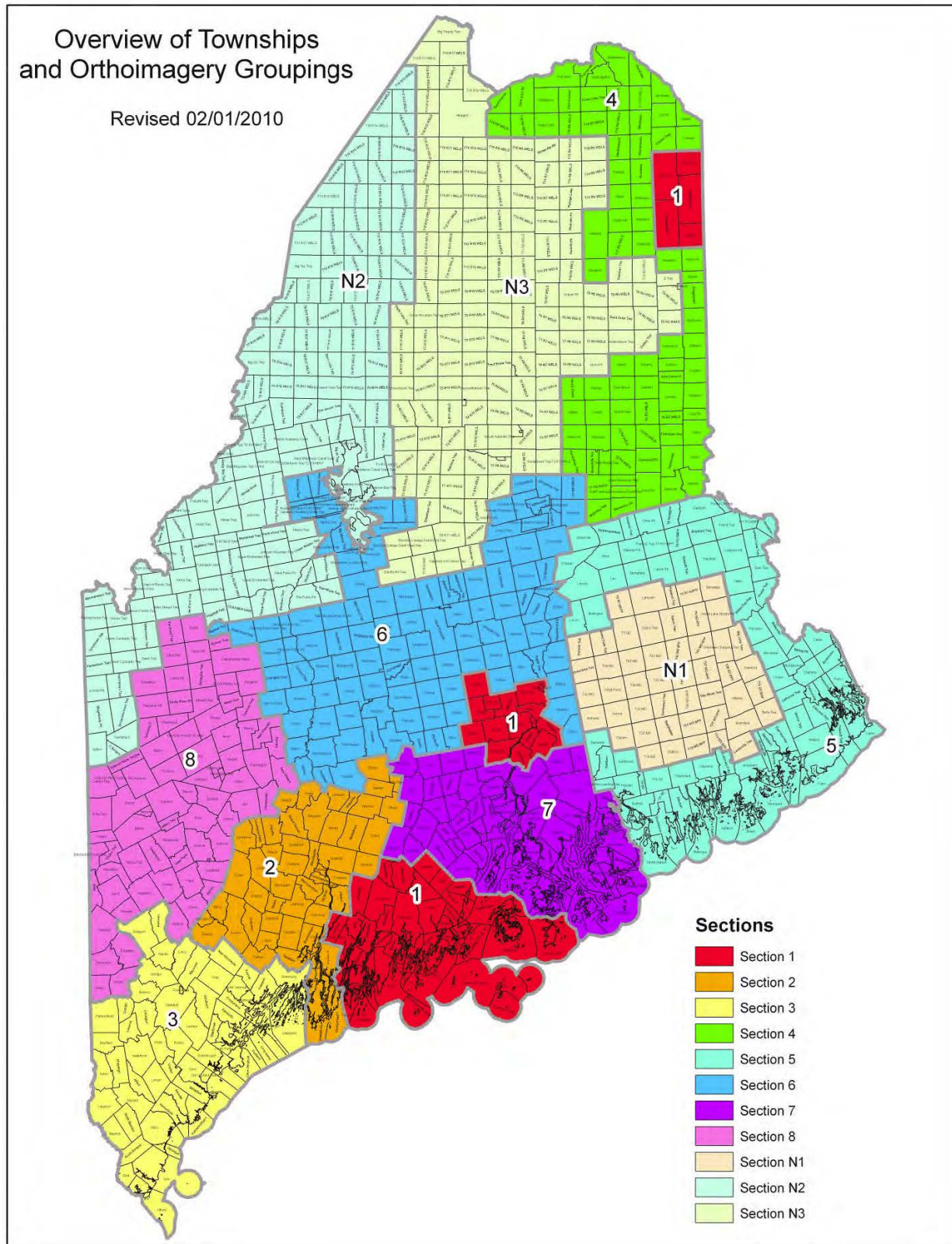
\$/sq. mi. - estimated costs	
30	3.3 foot resolution, color leaf-off
70	2 foot resolution, color leaf-off

Costs for 15 year cycle

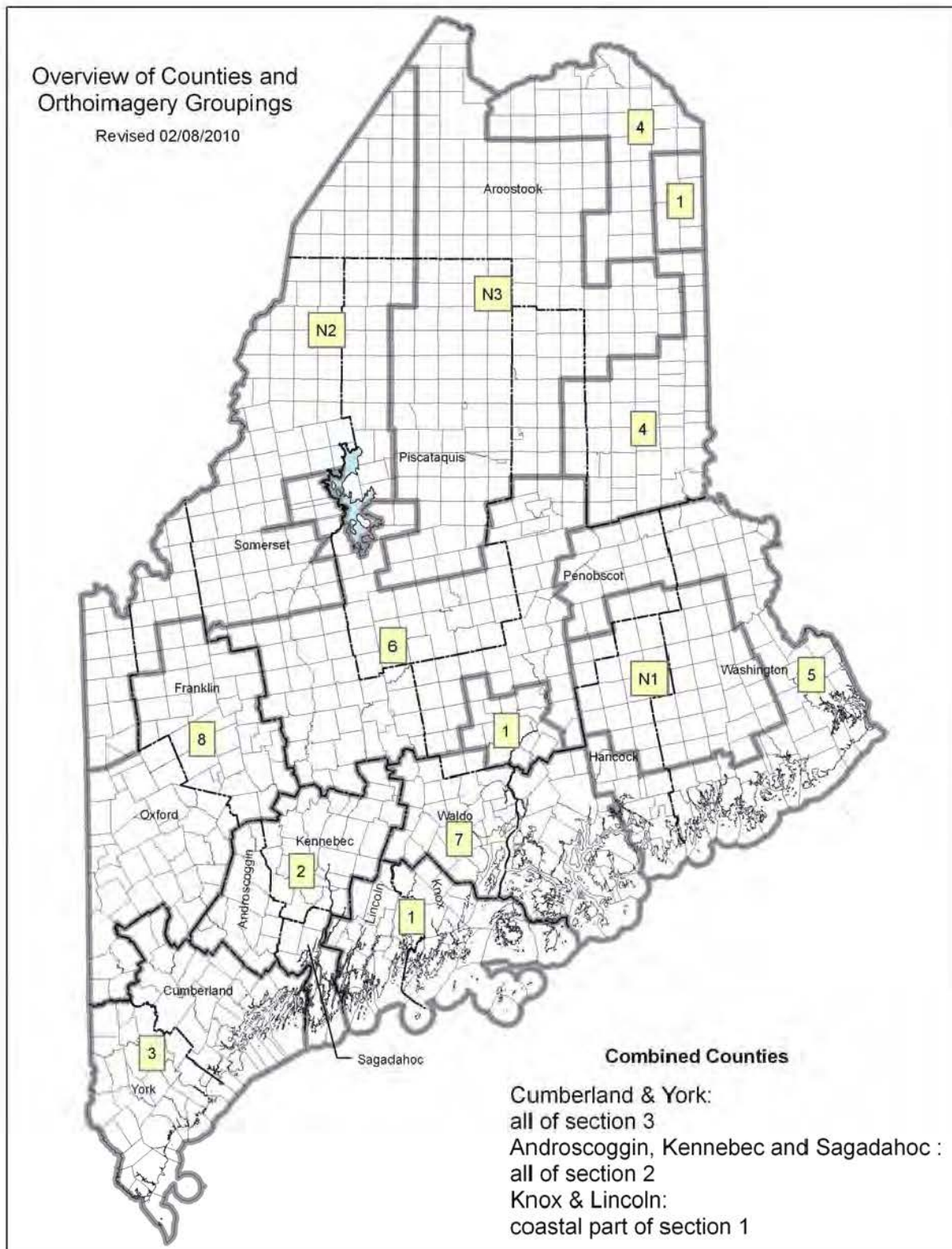
<u>Year</u>		<u>area sq. mi.</u>	<u>area \$</u>	<u>annual \$</u>
1	N1	1,911	\$57,330	
	group 4	3,006	\$210,420	
	group 1	2,569	\$179,830	\$447,580
2	N2	5,335	\$160,050	
	group 5	3,277	\$229,390	
	group 2	1,817	\$127,190	\$516,630
3	N3	5,701	\$171,030	
	group 6	4,167	\$291,690	
	group 3	2,486	\$174,020	\$636,740
4	group 7	2,181	\$152,670	
	group 1	2,569	\$179,830	\$332,500
5	group 8	2,949	\$206,430	
	group 2	1,817	\$127,190	\$333,620
6	N1	1,911	\$57,330	
	group 4	3,006	\$210,420	
	group 3	2,486	\$174,020	\$441,770
7	N2	5,335	\$160,050	
	group 5	3,277	\$229,390	
	group 1	2,569	\$179,830	\$569,270
8	N3	5,701	\$171,030	
	group 6	4,167	\$291,690	
	group 2	1,817	\$127,190	\$589,910
9	group 7	2,181	\$152,670	
	group 3	2,486	\$174,020	\$326,690
10	group 8	2,949	\$206,430	
	group 1	2,569	\$179,830	\$386,260
11	N1	1,911	\$57,330	
	group 4	3,006	\$210,420	
	group 2	1,817	\$127,190	\$394,940
12	N2	5,335	\$160,050	
	group 5	3,277	\$229,390	
	group 3	2,486	\$174,020	\$563,460
13	N3	5,701	\$171,030	

	group 6	4,167	\$291,690	
	group 1	2,569	\$179,830	\$642,550
14	group 7	2,181	\$152,670	
	group 2	1,817	\$127,190	\$279,860
15	group 3	2,486	\$174,020	
	group 8	2,949	\$206,430	\$380,450
Average cost per year				\$456,149

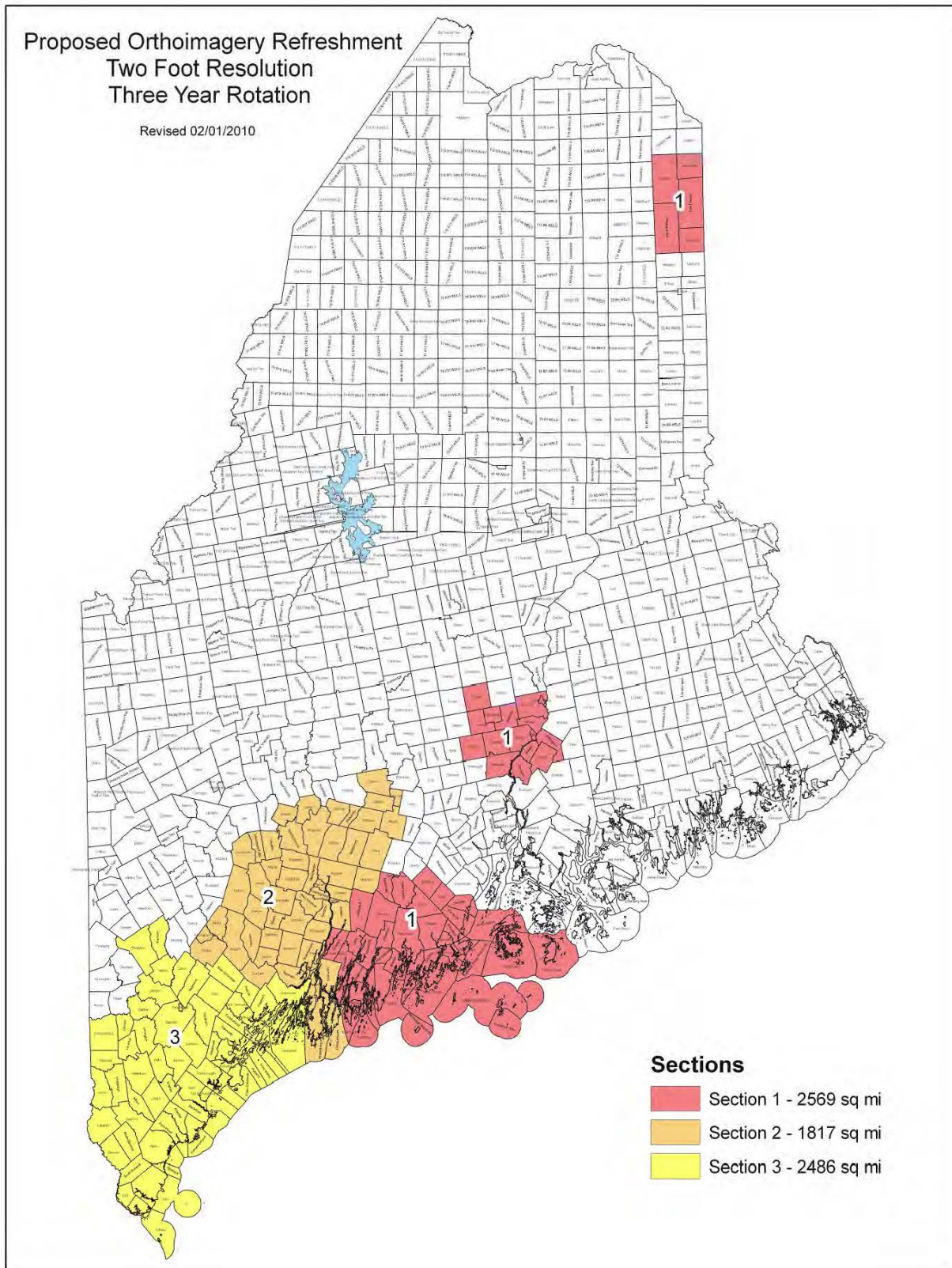
2. Map A1 – Town grouping by towns



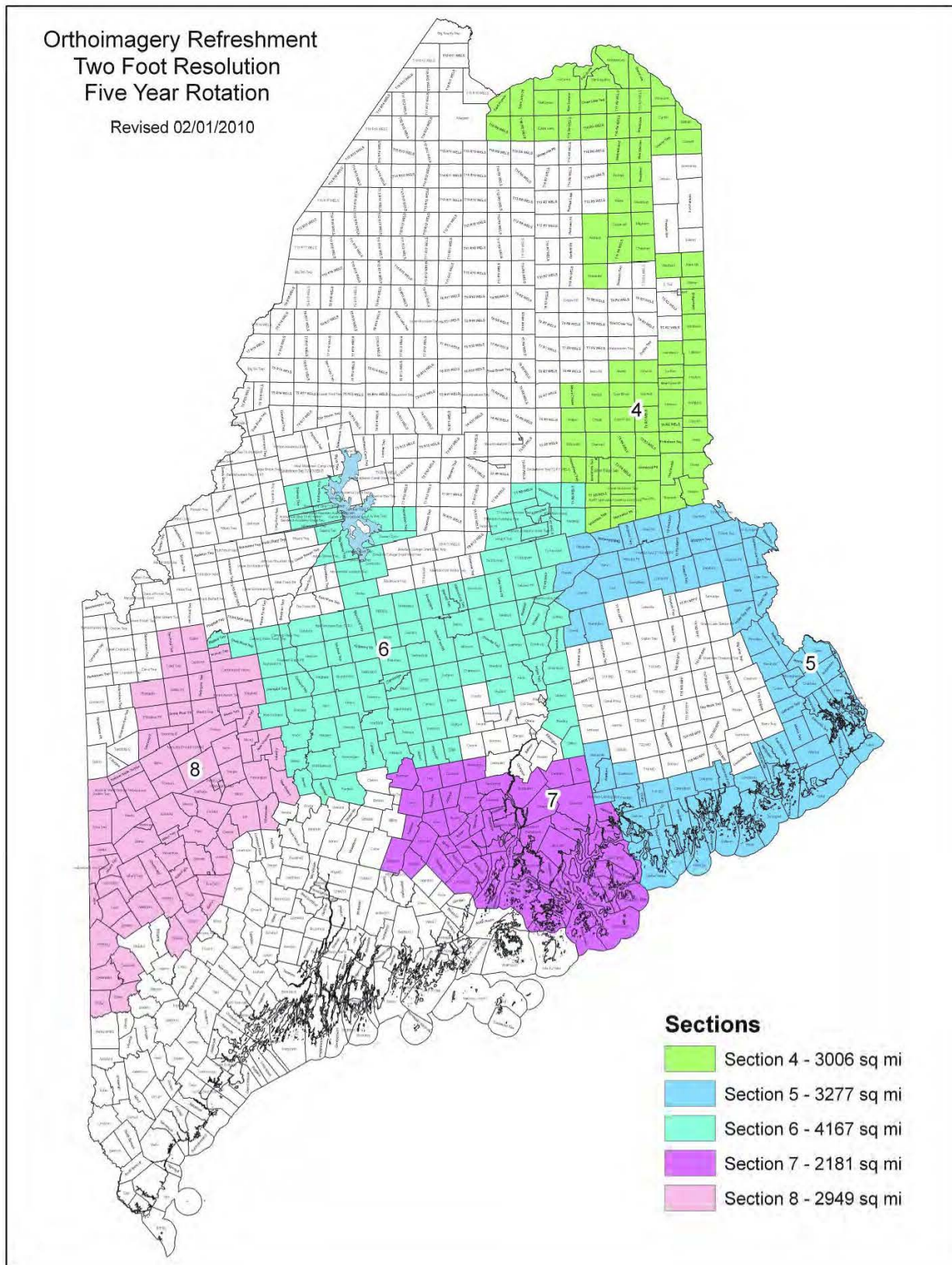
3. Map A2 – Town groupings by county



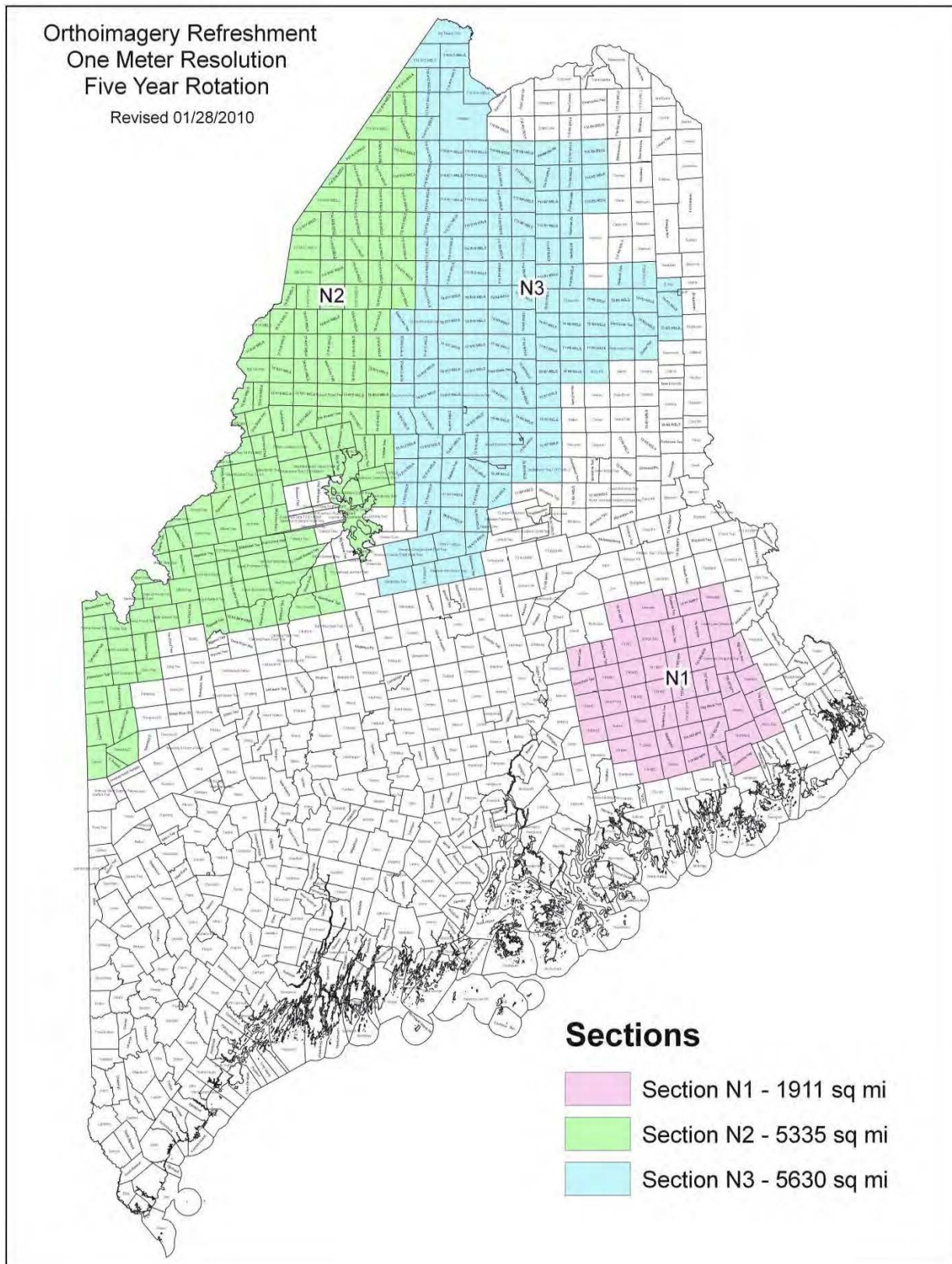
4. Map B – Two foot resolution and three year rotation



5. Map C – Two foot resolution and five year rotation



6. Map D – 3.3 foot resolution and five year rotation



All the towns covered by sections N1, N2 and N3 are in the unorganized territories of Maine and managed by LURC.

D. Alternatives

The subcommittee discussed various options over the course of the project. Many scenarios are possible, but the following are general alternatives the subcommittee felt could be explored.

- Increase the length of the update cycle to 5 and 7 years, for example, rather than 3 and 5 years and use the savings to increase the pixel resolution to 1 foot in selected areas.
- Accept leaf-on orthoimagery from the National Agricultural Inventory Program (NAIP), which is to be flown every three years for Maine, as the standard product for sectors N1, N2 and N3 and use the savings to increase the pixel resolution to 1 foot in selected areas.
- Some combination of the above

E. Buy-up Options

Public and private organizations will want to leverage the investment in the base program to produce more accurate and higher resolution products for their purposes. The subcommittee recommends that the program accommodate individual buy-ups as well as group buy-ups (e.g., counties). The total cost of the buy up will be funded by the organization(s) requesting the buy-up. The committee also recommends that the buy-ups be negotiated directly with the vendor but in consultation with an agent of the GeoLibrary Board. Available buy-ups include but may not be limited to the following. The final list will be set in the contract negotiated with the vendor.

- Pixel resolution – 1 foot, 6 inch, 3 inch
- Improve horizontal accuracy
- Color infrared

IV. Estimated Program Costs

The estimated cost of acquiring 2 foot and 3.3 foot orthoimagery to the specifications related above through a five year contract covering the entire State of Maine is estimated to be \$70/square mile and \$30/square mile, respectively. The average cost to the state for this program is estimated to be approximately \$460,000 per year. The calculation was done considering a 15 year period which provides 5 complete updates of groups 1 through 3 and 3 complete updates for groups 3 through 8 and N1 through N3. The subcommittee is comfortable with the estimates for the first five year period. Budget estimates beyond 5 are projections that can change significantly due to the economy and changing technology.

V. Potential Program Partnerships

As stated earlier in the report orthoimagery has become an essential product for many private and public programs and is used for many purposes. The following is a short list of the functions using high resolution orthoimagery:

- Tax Parcel Mapping

- Transportation Management, Operations & Planning
- Economic Development
- Utilities Management, Operations & Planning
- Land Planning and Zoning
- Drainage Planning & Management
- Code & Permit Enforcement
- Agriculture
- Insurance
- Surveying & Mapping
- Environmental Management, Planning & Regulation
- Education
- Natural Resource Inventories and Assessments
- Homeland Security & Emergency Management
- Public Safety Planning, Response & Mitigation
- Education and research

Collaboration by the spectrum of stakeholders to establish and fund a statewide program in Maine will provide this valuable data resource at a lower per square mile cost, at higher resolution and on a more regular schedule which in turn improves public health and safety, the overall quality of government decision-making and the efficiency of business.

State agencies including Transportation, Planning, Environmental Protection, Marine Resources, Conservation and the Turnpike Authority all use existing orthoimagery on a daily basis saving time and money on field work, inventory and analysis. Sending people into the field is expensive and information extracted in the office from orthoimagery is productive and efficient. The same is true for federal agencies including USGS, the Federal Emergency Management Agency, the Natural Resource Conservation Service and many more.

Private concerns including electric and utilities, telecommunication companies and large landowners such as the forestry industry rely on state produced orthoimagery for many purposes. Academia and not-for-profit groups such as land trusts, watershed associations and energy concerns also use orthoimagery on a day-to-day basis.

The GeoLibrary on-line orthoimagery survey results clearly document the widespread use and benefits of statewide orthoimagery. See Appendix A of this report and go to <http://www.maine.gov/geolib/orthosurveyresults.htm> for the complete results.

The economy of scale provides a very compelling case for producing the data on a statewide basis, rather than town-by-town or agency-by-agency. The cost for acquiring and processing the 2003 – 2005 orthoimagery was \$3.2 million and

covered 56% of the state or about \$160/square mile. Several communities in Maine recently acquired similar orthoimagery products on their own and the average cost was approximately \$500/square mile. Sharing the reduced costs with the multitude of stakeholders dramatically reduces the cost per organization in the short and long-term without considering the significant qualitative savings from better decision-making.

There is a common misconception that the State's efforts to upgrade its orthoimagery are redundant, since third party providers are already making this imagery available for free. This is not true. For states like Maine, the market does not compel companies to develop the scope of geographic information that the Maine public will need. Internet resources such as Google Earth or Microsoft's Virtual Earth acquire the information from the Maine GeoLibrary. Without an orthoimagery program funded by the State of Maine, publicly available orthoimagery for the entire state, whether through private or government sources, would become outdated, and in many regions would remain at unacceptably low quality levels. Failure to promote high quality orthoimagery in Maine will put the State at a disadvantage in the economic marketplace.

Maine GeoLibrary Orthoimagery Subcommittee Report Appendices

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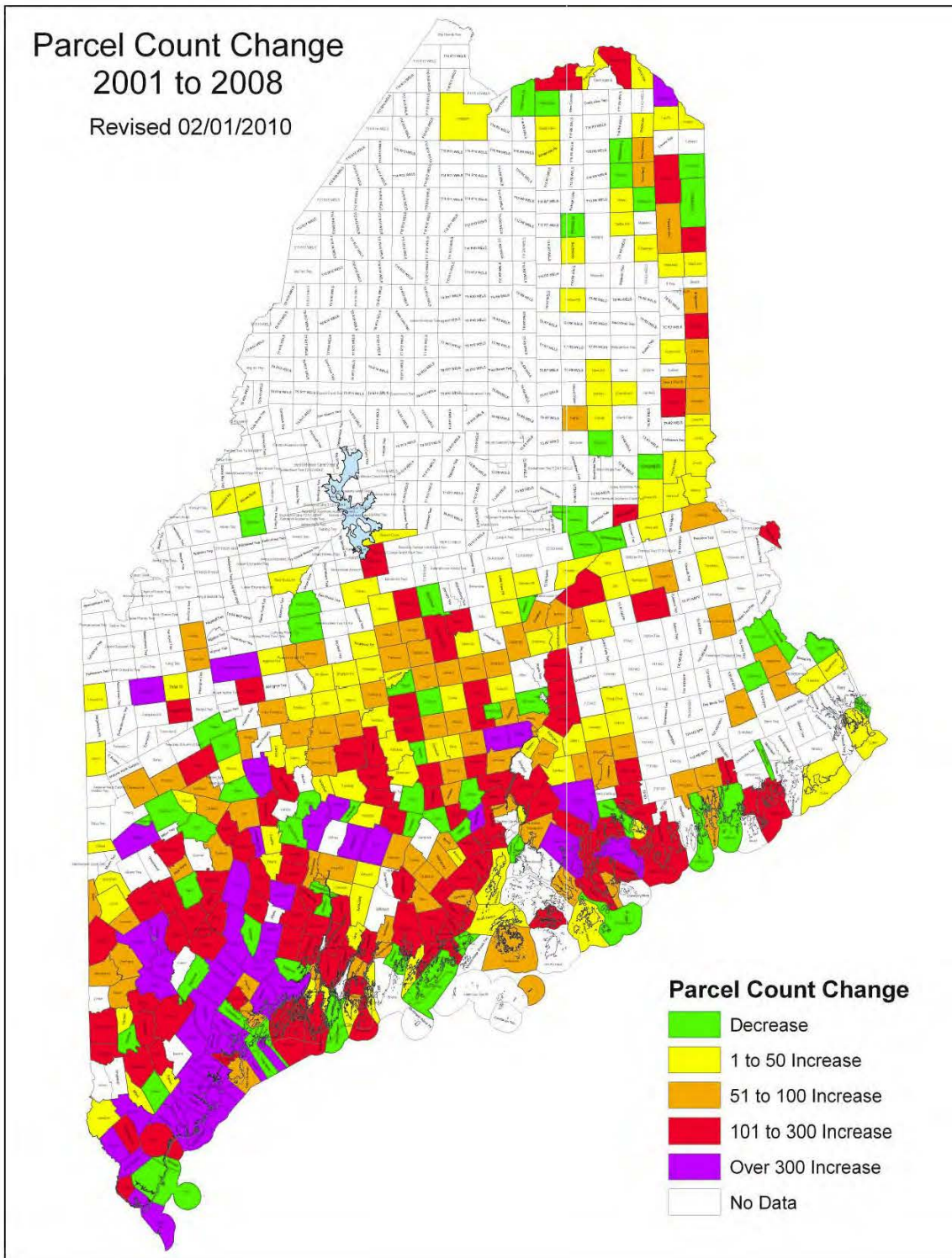
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Appendix A Sampling of the 2003 – 2005 orthoimagery survey

- Based on an online survey, orthoimagery users were 46% businesses and corporations, 12% state government, 12% educational institutions, 11% municipal government, 7% non-profits, 5% federal agencies and 7% all other. About 48% of the respondents reported measurable cost savings.
- A municipal mapping company: “We estimate that for a town of approximately 2,000 parcels, the savings in a tax mapping project is \$20,000 or more by using the orthoimagery.”
- An academic institution: “...using the orthoimagery for mapping wetlands saved over three weeks of intensive manual labor by two individuals, ...240 hours or \$12,000.”
- 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.”
- A state agency: “...one overnight trip from Augusta to Houlton by an employee at \$15 per hour costs the state a minimum of \$560. In most cases, a trip like this would have to be extended for at least a week in order to approach the amount of information contained in one recent, high resolution aerial image.”
- Many state agencies use orthoimagery for regulatory and enforcement activities, permitting and zoning. As budgets are stretched, high resolution imagery refreshed on a regular basis has become a necessity for these activities.

Appendix B - Maps

1. Change in number of parcels per town

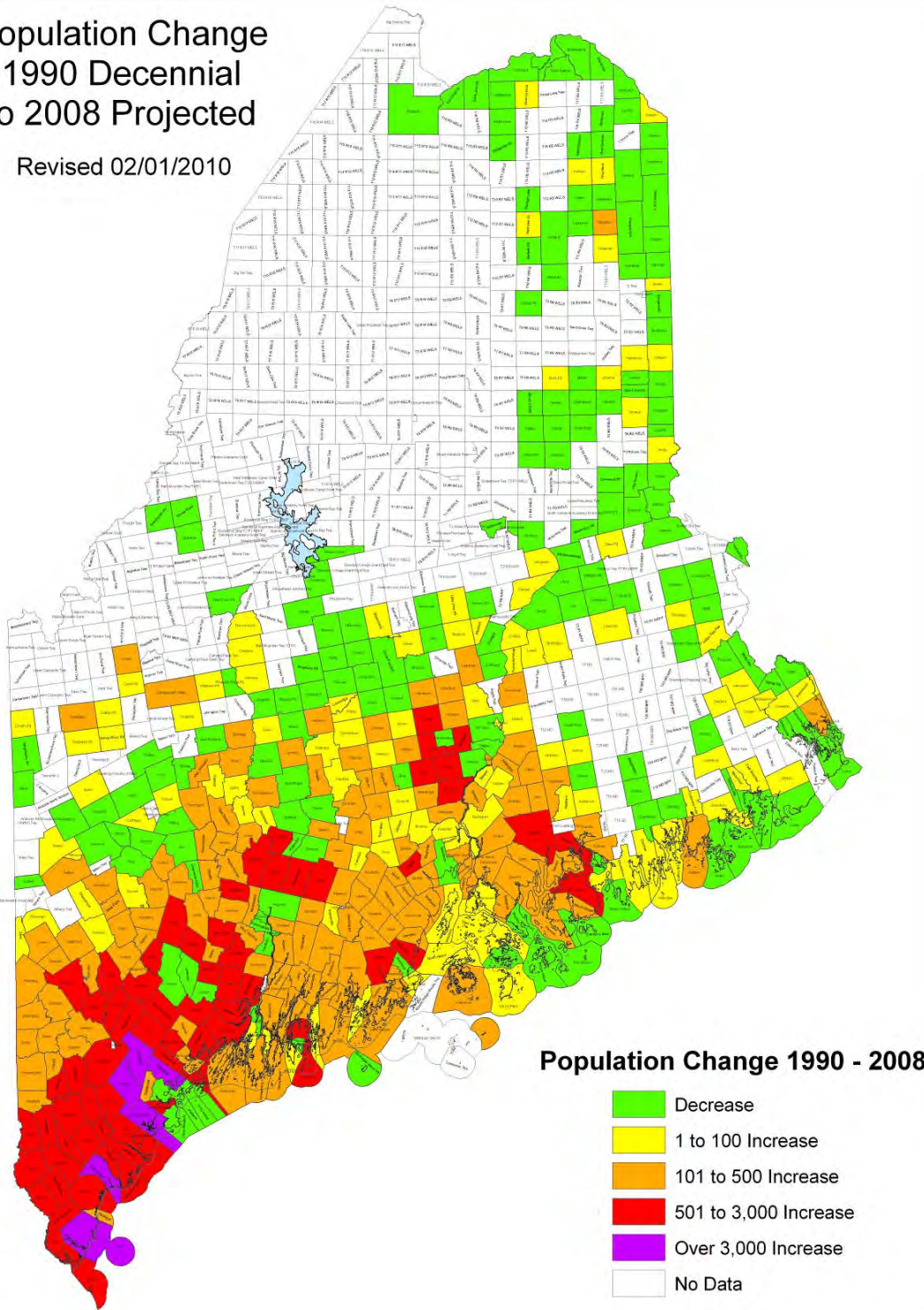


Source – Maine Revenue Service

2. Change in town population

Population Change 1990 Decennial to 2008 Projected

Revised 02/01/2010

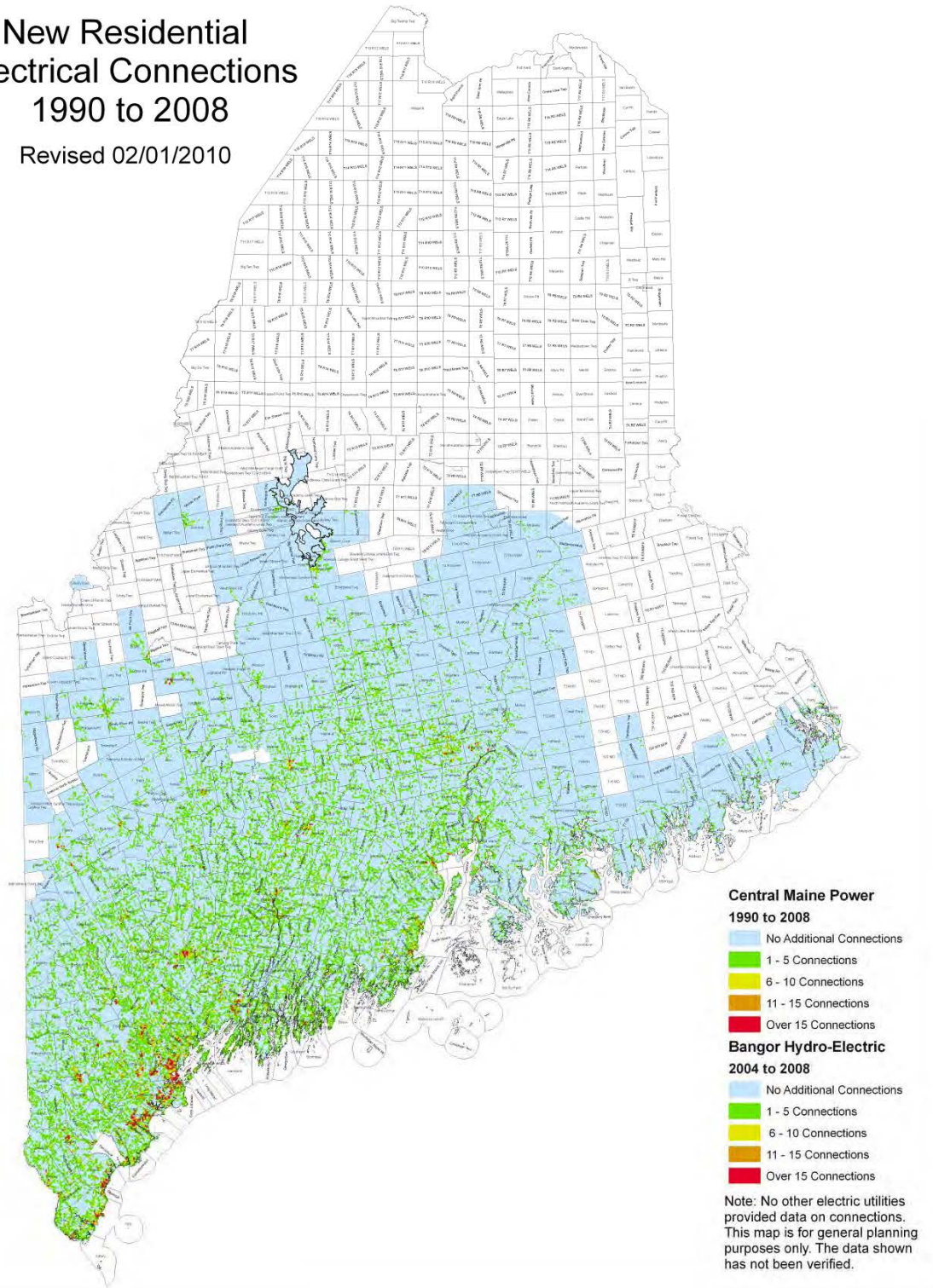


Source – US Bureau of Census

3. New residential electric connections

New Residential Electrical Connections 1990 to 2008

Revised 02/01/2010

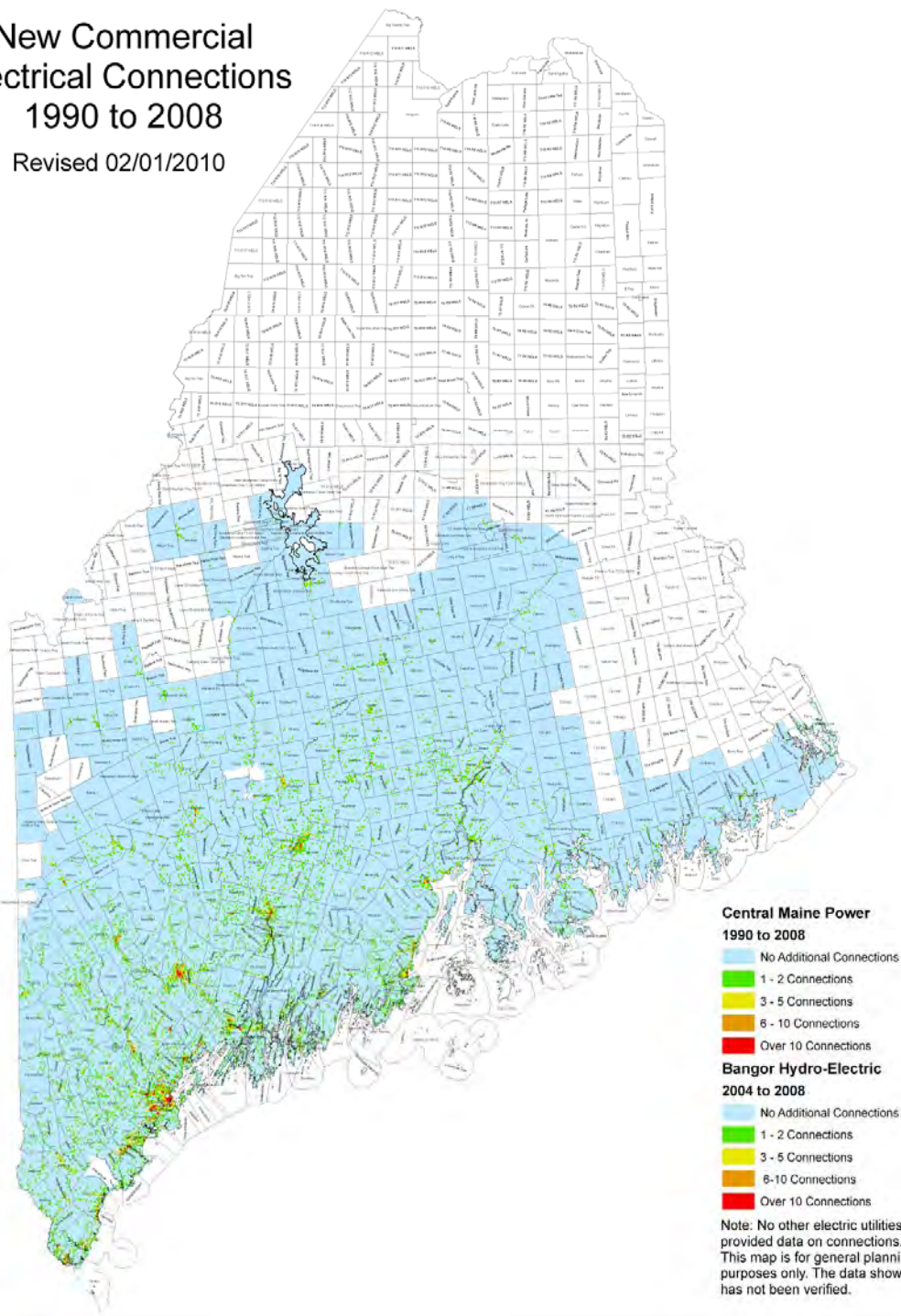


Source – Central Maine Power and Bangor Hydro

4. New commercial electric connections

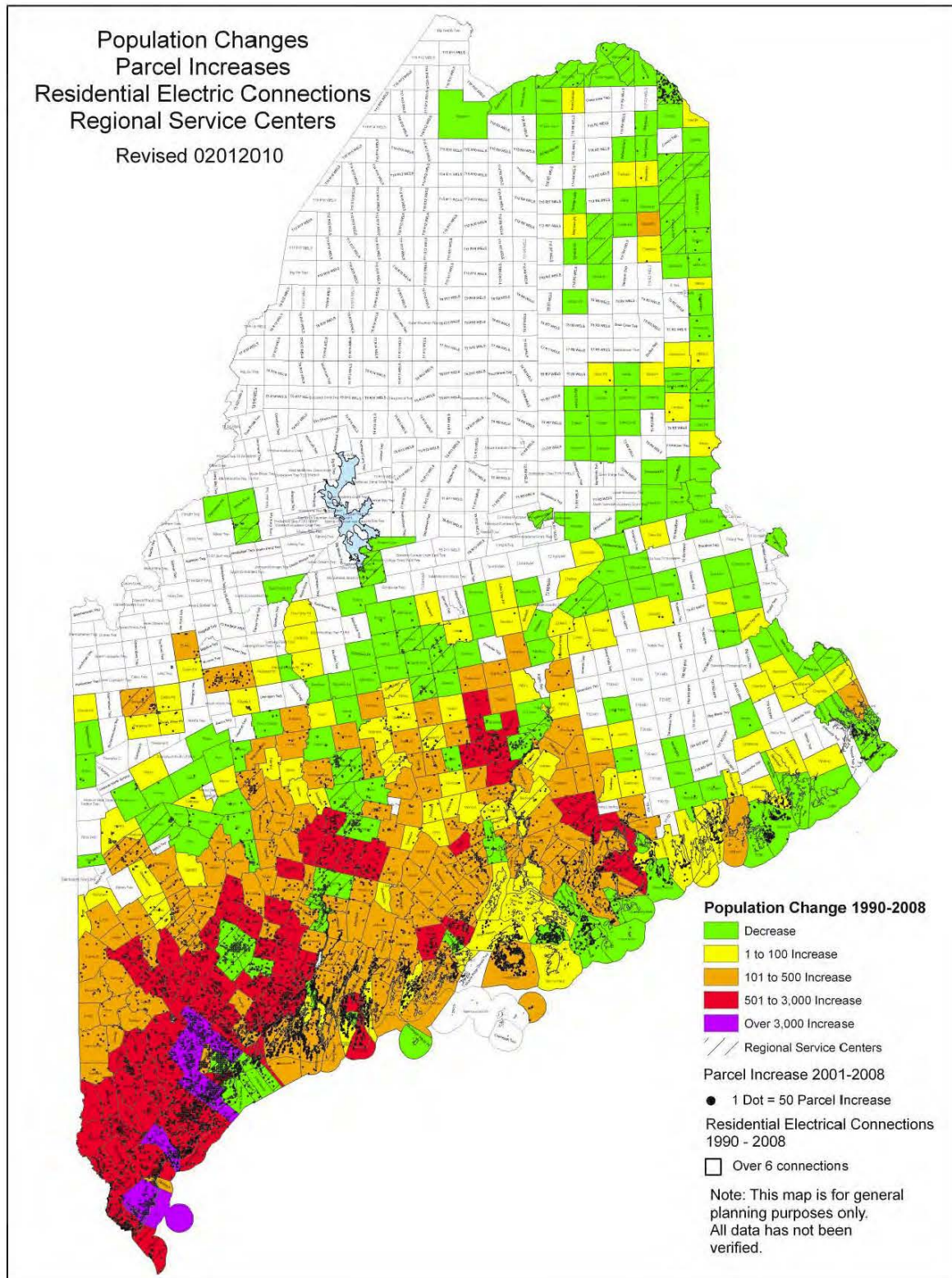
New Commercial Electrical Connections 1990 to 2008

Revised 02/01/2010



Source – Central Maine Power and Bangor Hydro

5. Combination map with regional service centers



Appendix C – Alphabetical listing of towns by group

TOWN	COUNTY	SECTION
Abbot	Piscataquis	6
Acton	York	3
Adamstown Twp	Oxford	N2
Addison	Washington	5
Albany Twp	Oxford	8
Albion	Kennebec	2
Alder Brook Twp	Somerset	N2
Alder Stream Twp	Franklin	N2
Alexander	Washington	5
Alfred	York	3
Allagash	Aroostook	N3
Alna	Lincoln	1
Alton	Penobscot	6
Amherst	Hancock	N1
Amity	Aroostook	4
Andover	Oxford	8
Andover North Surplus	Oxford	8
Andover West Surplus Twp	Oxford	8
Anson	Somerset	6
Appleton	Knox	1
Appleton Twp	Somerset	N2
Argyle Twp	Penobscot	6
Arrowsic	Sagadahoc	2
Arundel	York	3

Ashland	Aroostook	4
Athens	Somerset	6
Atkinson	Piscataquis	6
Attean Twp	Somerset	N2
Auburn	Androscoggin	2
Augusta	Kennebec	2
Aurora	Hancock	N1
Avon	Franklin	8
Baileyville	Washington	5
Bald Mountain Twp T2 R3	Somerset	6
Bald Mountain Twp T4 R3	Somerset	N2
Baldwin	Cumberland	3
Bancroft	Aroostook	4
Bangor	Penobscot	1
Bar Harbor	Hancock	7
Baring Plt	Washington	5
Barnard Twp	Piscataquis	6
Batchelders Grant Twp	Oxford	8
Bath	Sagadahoc	2
Beals	Washington	5
Beattie Twp	Franklin	N2
Beaver Cove	Piscataquis	6
Beddington	Washington	N1
Belfast	Waldo	7
Belgrade	Kennebec	2
Belmont	Waldo	7
Benedicta Twp	Aroostook	4
Benton	Kennebec	2

Berry Twp	Washington	N1
Berwick	York	3
Bethel	Oxford	8
Biddeford	York	3
Big Lake Twp	Washington	N1
Big Moose Twp	Piscataquis	6
Big Six Twp	Somerset	N2
Big Ten Twp	Somerset	N2
Big Twenty Twp	Aroostook	N3
Big W Twp	Somerset	N2
Bigelow Twp	Somerset	6
Bingham	Somerset	6
Blaine	Aroostook	4
Blake Gore	Somerset	N2
Blanchard Twp	Piscataquis	6
Blue Hill	Hancock	7
Boothbay	Lincoln	1
Boothbay Harbor	Lincoln	1
Bowdoin	Sagadahoc	2
Bowdoin College Grant East Twp	Piscataquis	N3
Bowdoin College Grant West Twp	Piscataquis	N3
Bowdoinham	Sagadahoc	2
Bowerbank	Piscataquis	6
Bowmantown Twp	Oxford	N2
Bowtown Twp	Somerset	N2
Bradford	Penobscot	6
Bradley	Penobscot	6
Bradstreet Twp	Somerset	N2

Brassua Twp	Somerset	6
Bremen	Lincoln	1
Brewer	Penobscot	1
Bridgewater	Aroostook	4
Bridgton	Cumberland	3
Brighton Plt	Somerset	6
Bristol	Lincoln	1
Brooklin	Hancock	7
Brooks	Waldo	7
Brooksville	Hancock	7
Brookton Twp	Washington	5
Brownfield	Oxford	8
Brownville	Piscataquis	6
Brunswick	Cumberland	3
Buckfield	Oxford	8
Bucksport	Hancock	7
Burlington	Penobscot	5
Burnham	Waldo	7
Buxton	York	3
Byron	Oxford	8
C Surplus	Oxford	N2
Calais	Washington	5
Cambridge	Somerset	6
Camden	Knox	1
Canaan	Somerset	6
Canton	Oxford	8
Cape Elizabeth	Cumberland	3
Caratunk	Somerset	6

Caribou	Aroostook	1
Carmel	Penobscot	1
Carrabassett Valley	Franklin	8
Carroll Plt	Penobscot	5
Carrying Place Town Twp	Somerset	6
Carrying Place Twp	Somerset	6
Carthage	Franklin	8
Cary Plt	Aroostook	4
Casco	Cumberland	3
Castine	Hancock	7
Castle Hill	Aroostook	4
Caswell	Aroostook	4
Cathance Twp	Washington	5
Centerville Twp	Washington	N1
Chain of Ponds Twp	Franklin	N2
Chapman	Aroostook	4
Charleston	Penobscot	6
Charlotte	Washington	5
Chase Stream Twp	Somerset	N2
Chebeague Island	Cumberland	3
Chelsea	Kennebec	2
Cherryfield	Washington	5
Chester	Penobscot	5
Chesterville	Franklin	8
Chesuncook Twp	Piscataquis	N3
China	Kennebec	2
Clifton	Penobscot	6
Clinton	Kennebec	2

Coburn Gore	Franklin	N2
Codyville Plt	Washington	5
Columbia	Washington	5
Columbia Falls	Washington	5
Comstock Twp	Somerset	N2
Concord Twp	Somerset	6
Connor Twp	Aroostook	4
Cooper	Washington	5
Coplin Plt	Franklin	8
Corinna	Penobscot	6
Corinth	Penobscot	1
Cornish	York	3
Cornville	Somerset	6
Cove Point Twp	Piscataquis	N2
Cox Patent	Aroostook	N3
Cranberry Isles	Hancock	7
Crawford	Washington	N1
Criehaven Twp	Knox	1
Cross Lake Twp	Aroostook	4
Crystal	Aroostook	4
Cumberland	Cumberland	3
Cushing	Knox	1
Cutler	Washington	5
Cyr Plt	Aroostook	4
Dallas Plt	Franklin	8
Damariscotta	Lincoln	1
Danforth	Washington	5
Davis Twp	Franklin	N2

Day Block Twp	Washington	N1
Days Academy Grant Twp	Piscataquis	N2
Dayton	York	3
Dead River Twp	Somerset	6
Deblois	Washington	N1
Dedham	Hancock	7
Deer Isle	Hancock	7
Denmark	Oxford	8
Dennistown Plt	Somerset	N2
Dennysville	Washington	5
Detroit	Somerset	6
Devereaux Twp	Washington	N1
Dexter	Penobscot	6
Dixfield	Oxford	8
Dixmont	Penobscot	7
Dole Brook Twp	Somerset	N2
Dover-Foxcroft	Piscataquis	6
Dresden	Lincoln	1
Drew Plt	Penobscot	5
Dudley Twp	Aroostook	N3
Durham	Androscoggin	2
Dyer Brook	Aroostook	4
Dyer Twp	Washington	5
E Twp	Aroostook	N3
Eagle Lake	Aroostook	4
Eagle Lake Twp	Piscataquis	N3
East Machias	Washington	5
East Middlesex Canal Grant Twp	Piscataquis	N2

East Millinocket	Penobscot	6
East Moxie Twp	Somerset	N2
Eastbrook	Hancock	5
Easton	Aroostook	1
Eastport	Washington	5
Ebeemee Twp	Piscataquis	N3
Eddington	Penobscot	1
Edgecomb	Lincoln	1
Edinburg	Penobscot	6
Edmunds Twp	Washington	5
Eliot	York	3
Elliottsville Twp	Piscataquis	N3
Ellsworth	Hancock	7
Elm Stream Twp	Somerset	N2
Embden	Somerset	6
Enfield	Penobscot	6
Etna	Penobscot	6
Eustis	Franklin	8
Exeter	Penobscot	6
Fairfield	Somerset	6
Falmouth	Cumberland	3
Farmingdale	Kennebec	2
Farmington	Franklin	8
Fayette	Kennebec	2
Flagstaff Twp	Somerset	N2
Fletchers Landing Twp	Hancock	5
Forest City Twp	Washington	5
Forest Twp	Washington	5

Forkstown Twp	Aroostook	4
Forsyth Twp	Somerset	N2
Fort Fairfield	Aroostook	1
Fort Kent	Aroostook	4
Fowler Twp	Washington	5
Frankfort	Waldo	7
Franklin	Hancock	5
Freedom	Waldo	7
Freeman Twp	Franklin	8
Freeport	Cumberland	3
Frenchboro	Hancock	7
Frenchtown Twp	Piscataquis	6
Frenchville	Aroostook	4
Friendship	Knox	1
Frye Island	Cumberland	3
Fryeburg	Oxford	8
Gardiner	Kennebec	2
Garfield Plt	Aroostook	N3
Garland	Penobscot	6
Georgetown	Sagadahoc	2
Gilead	Oxford	8
Glenburn	Penobscot	1
Glenwood Plt	Aroostook	4
Gorham	Cumberland	3
Gorham Gore	Franklin	N2
Gouldsboro	Hancock	5
Grafton Twp	Oxford	8
Grand Falls Twp	Penobscot	N1

Grand Isle	Aroostook	4
Grand Lake Stream Plt	Washington	N1
Gray	Cumberland	3
Great Pond	Hancock	N1
Greenbush	Penobscot	6
Greene	Androscoggin	2
Greenfield Twp	Penobscot	N1
Greenlaw Chopping Twp	Washington	N1
Greenville	Piscataquis	6
Greenwood	Oxford	8
Grindstone Twp	Penobscot	6
Guilford	Piscataquis	6
Hallowell	Kennebec	2
Hamlin	Aroostook	4
Hammond	Aroostook	4
Hammond Twp	Somerset	N2
Hampden	Penobscot	1
Hancock	Hancock	5
Hanover	Oxford	8
Harfords Point Twp	Piscataquis	6
Harmony	Somerset	6
Harpwell	Cumberland	3
Harrington	Washington	5
Harrison	Cumberland	3
Hartford	Oxford	8
Hartland	Somerset	6
Haynesville	Aroostook	4
Hebron	Oxford	8

Hermon	Penobscot	1
Hersey	Aroostook	4
Herseytown Twp	Penobscot	4
Hibberts Gore	Lincoln	1
Highland Plt	Somerset	6
Hiram	Oxford	8
Hobbs town Twp	Somerset	N2
Hodgdon	Aroostook	4
Holden	Penobscot	1
Holeb Twp	Somerset	N2
Hollis	York	3
Hope	Knox	1
Hopkins Academy Grant Twp	Penobscot	6
Houlton	Aroostook	4
Howland	Penobscot	6
Hudson	Penobscot	6
Indian Island	Penobscot	1
Indian Stream Twp	Somerset	6
Indian Twp Res	Washington	5
Industry	Franklin	8
Island Falls	Aroostook	4
Islands of Moosehead Lake	Piscataquis	N2
Isle Au Haut	Knox	1
Islesboro	Waldo	7
Jackman	Somerset	N2
Jackson	Waldo	7
Jay	Franklin	8
Jefferson	Lincoln	1

Jim Pond Twp	Franklin	N2
Johnson Mountain Twp	Somerset	N2
Jonesboro	Washington	5
Jonesport	Washington	5
Katahdin Iron Works Twp	Piscataquis	N3
Kenduskeag	Penobscot	1
Kennebunk	York	3
Kennebunkport	York	3
Kibby Twp	Franklin	N2
Kineo Twp	Piscataquis	6
King & Bartlett Twp	Somerset	N2
Kingfield	Franklin	8
Kingman Twp	Penobscot	5
Kingsbury Plt	Piscataquis	6
Kittery	York	3
Knox	Waldo	7
Kossuth Twp	Washington	5
Lagrange	Penobscot	6
Lake View Plt	Piscataquis	6
Lakeville	Penobscot	N1
Lambert Lake Twp	Washington	5
Lamoine	Hancock	7
Lang Twp	Franklin	8
Lebanon	York	3
Lee	Penobscot	5
Leeds	Androscoggin	2
Levant	Penobscot	1
Lewiston	Androscoggin	2

Lexington Twp	Somerset	6
Liberty	Waldo	7
Lily Bay Twp	Piscataquis	6
Limerick	York	3
Limestone	Aroostook	1
Limington	York	3
Lincoln	Penobscot	5
Lincoln Plt	Oxford	N2
Lincolntown	Waldo	7
Linneus	Aroostook	4
Lisbon	Androscoggin	2
Litchfield	Kennebec	2
Little W Twp	Somerset	N2
Littleton	Aroostook	4
Livermore	Androscoggin	2
Livermore Falls	Androscoggin	2
Lobster Twp	Piscataquis	N2
Long A Twp	Penobscot	6
Long Island	Cumberland	3
Long Pond Twp	Somerset	N2
Lovell	Oxford	8
Lowell	Penobscot	5
Lowelltown Twp	Franklin	N2
Lower Cupsuptic Twp	Oxford	N2
Lower Enchanted Twp	Somerset	N2
Lubec	Washington	5
Ludlow	Aroostook	4
Lyman	York	3

Lynchtown Twp	Oxford	N2
Machias	Washington	5
Machiasport	Washington	5
Macwahoc Plt	Aroostook	4
Madawaska	Aroostook	4
Madison	Somerset	6
Madrid Twp	Franklin	8
Magalloway Plt	Oxford	N2
Manchester	Kennebec	2
Mapleton	Aroostook	4
Mariaville	Hancock	5
Marion Twp	Washington	5
Mars Hill	Aroostook	4
Marshfield	Washington	5
Masardis	Aroostook	4
Mason Twp	Oxford	8
Massachusetts Gore	Franklin	N2
Matinicus Isle Plt	Knox	1
Mattamiscontis Twp	Penobscot	6
Mattawamkeag	Penobscot	5
Maxfield	Penobscot	6
Mayfield Twp	Somerset	6
Mechanic Falls	Androscoggin	2
Meddybemps	Washington	5
Medford	Piscataquis	6
Medway	Penobscot	6
Mercer	Somerset	6
Merrill	Aroostook	4

Merrill Strip Twp	Franklin	N2
Mexico	Oxford	8
Milbridge	Washington	5
Milford	Penobscot	6
Millinocket	Penobscot	6
Milo	Piscataquis	6
Milton Twp	Oxford	8
Minot	Androscoggin	2
Misery Gore Twp	Somerset	6
Misery Twp	Somerset	N2
Molunkus Twp	Aroostook	4
Monhegan Island Plt	Lincoln	1
Monmouth	Kennebec	2
Monroe	Waldo	7
Monson	Piscataquis	6
Monticello	Aroostook	4
Montville	Waldo	7
Moose River	Somerset	N2
Moosehead Junction Twp	Piscataquis	6
Moro Plt	Aroostook	N3
Morrill	Waldo	7
Moscow	Somerset	6
Mount Abram Twp	Franklin	8
Mount Chase	Penobscot	4
Mount Desert	Hancock	7
Mount Katahdin Twp	Piscataquis	N3
Mount Vernon	Kennebec	2
Moxie Gore	Somerset	N2

Muscle Ridge Shoals Twp	Knox	1
Naples	Cumberland	3
Nashville Plt	Aroostook	N3
Nesourdnahunk Twp	Piscataquis	N3
New Canada	Aroostook	4
New Gloucester	Cumberland	3
New Limerick	Aroostook	4
New Portland	Somerset	6
New Sharon	Franklin	8
New Sweden	Aroostook	4
New Vineyard	Franklin	8
Newburgh	Penobscot	7
Newcastle	Lincoln	1
Newfield	York	3
Newport	Penobscot	6
Newry	Oxford	8
Nobleboro	Lincoln	1
Norridgewock	Somerset	6
North Berwick	York	3
North Haven	Knox	1
North Yarmouth	Cumberland	3
North Yarmouth Academy Grant Twp	Aroostook	4
Northeast Carry Twp	Piscataquis	N2
Northfield	Washington	N1
Northport	Waldo	7
Norway	Oxford	8
Oakfield	Aroostook	4
Oakland	Kennebec	2

Ogunquit	York	3
Old Orchard Beach	York	3
Old Town	Penobscot	1
Oqiton Twp	Hancock	N1
Orient	Aroostook	4
Orland	Hancock	7
Orneville Twp	Piscataquis	6
Orono	Penobscot	1
Orrington	Penobscot	1
Osborn	Hancock	N1
Otis	Hancock	7
Otisfield	Oxford	8
Owls Head	Knox	1
Oxbow Plt	Aroostook	N3
Oxbow Twp	Oxford	N2
Oxford	Oxford	8
Palermo	Waldo	7
Palmyra	Somerset	6
Paris	Oxford	8
Parkertown Twp	Oxford	N2
Parkman	Piscataquis	6
Parlin Pond Twp	Somerset	N2
Parmachenee Twp	Oxford	N2
Parsonsfield	York	3
Passadumkeag	Penobscot	6
Patten	Penobscot	4
Pembroke	Washington	5
Penobscot	Hancock	7

Perham	Aroostook	4
Perkins Twp	Franklin	8
Perkins Twp Swan Island	Sagadahoc	2
Perry	Washington	5
Peru	Oxford	8
Phillips	Franklin	8
Phippsburg	Sagadahoc	2
Pierce Pond Twp	Somerset	N2
Pittsfield	Somerset	6
Pittston	Kennebec	2
Pittston Academy Grant	Somerset	N2
Pleasant Point	Washington	5
Pleasant Ridge Plt	Somerset	6
Plymouth	Penobscot	6
Plymouth Twp	Somerset	N2
Poland	Androscoggin	2
Portage Lake	Aroostook	N3
Porter	Oxford	8
Portland	Cumberland	3
Pownal	Cumberland	3
Prentiss Twp T4 R4 NBKP	Somerset	N2
Prentiss Twp T7 R3 NBPP	Penobscot	5
Presque Isle	Aroostook	1
Princeton	Washington	5
Prospect	Waldo	7
Pukakon Twp	Penobscot	N1
Rainbow Twp	Piscataquis	N3
Randolph	Kennebec	2

Rangeley	Franklin	8
Rangeley Plt	Franklin	8
Raymond	Cumberland	3
Readfield	Kennebec	2
Redington Twp	Franklin	8
Reed Plt	Aroostook	4
Richardsontown Twp	Oxford	N2
Richmond	Sagadahoc	2
Riley Twp	Oxford	8
Ripley	Somerset	6
Robbinston	Washington	5
Rockland	Knox	1
Rockport	Knox	1
Rockwood Strip T1 R1 NBKP	Somerset	6
Rockwood Strip T2 R1 NBKP	Somerset	6
Rome	Kennebec	2
Roque Bluffs	Washington	5
Roxbury	Oxford	8
Rumford	Oxford	8
Russell Pond Twp	Somerset	N2
Sabattus	Androscoggin	2
Saco	York	3
Saint Agatha	Aroostook	4
Saint Albans	Somerset	6
Saint Croix Twp	Aroostook	N3
Saint Francis	Aroostook	4
Saint George	Knox	1
Saint John Plt	Aroostook	4

Saint John Twp	Somerset	N2
Sakom Twp	Washington	N1
Salem Twp	Franklin	8
Sandbar Tract Twp	Somerset	6
Sandwich Academy Grant Twp	Somerset	6
Sandy Bay Twp	Somerset	N2
Sandy River Plt	Franklin	8
Sanford	York	3
Sangerville	Piscataquis	6
Sapling Twp	Somerset	6
Scarborough	Cumberland	3
Searsmont	Waldo	7
Searsport	Waldo	7
Sebago	Cumberland	3
Sebec	Piscataquis	6
Seboeis Plt	Penobscot	6
Seboomook Twp	Somerset	N2
Sedgwick	Hancock	7
Seven Ponds Twp	Franklin	N2
Shapleigh	York	3
Shawtown Twp	Piscataquis	N3
Sherman	Aroostook	4
Shirley	Piscataquis	6
Sidney	Kennebec	2
Silver Ridge Twp	Aroostook	4
Skinner Twp	Franklin	N2
Skowhegan	Somerset	6
Smithfield	Somerset	6

Smyrna	Aroostook	4
Soldiertown Twp T2 R3 NBKP	Somerset	N2
Soldiertown Twp T2 R7 WELS	Penobscot	N3
Solon	Somerset	6
Somerville	Lincoln	1
Soper Mountain Twp	Piscataquis	N3
Sorrento	Hancock	5
South Berwick	York	3
South Bristol	Lincoln	1
South Portland	Cumberland	3
South Thomaston	Knox	1
Southport	Lincoln	1
Southwest Harbor	Hancock	7
Spencer Bay Twp	Piscataquis	N2
Springfield	Penobscot	5
Squapan Twp	Aroostook	N3
Squaretown Twp	Somerset	N2
Stacyville	Penobscot	4
Standish	Cumberland	3
Starks	Somerset	6
Stetson	Penobscot	6
Stetsontown Twp	Franklin	N2
Steuben	Washington	5
Stockholm	Aroostook	4
Stockton Springs	Waldo	7
Stoneham	Oxford	8
Stonington	Hancock	7
Stow	Oxford	8

Strong	Franklin	8
Sullivan	Hancock	5
Summit Twp	Penobscot	N1
Sumner	Oxford	8
Surry	Hancock	7
Swans Island	Hancock	7
Swanville	Waldo	7
Sweden	Oxford	8
T1 R10 WELS	Piscataquis	N3
T1 R11 WELS	Piscataquis	N3
T1 R12 WELS	Piscataquis	N3
T1 R13 WELS	Piscataquis	N3
T1 R5 WELS	Aroostook	4
T1 R6 WELS	Penobscot	6
T1 R8 WELS	Penobscot	6
T1 R9 WELS	Piscataquis	N3
T10 R10 WELS	Piscataquis	N3
T10 R11 WELS	Piscataquis	N3
T10 R12 WELS	Piscataquis	N3
T10 R13 WELS	Piscataquis	N2
T10 R14 WELS	Piscataquis	N2
T10 R15 WELS	Piscataquis	N2
T10 R16 WELS	Somerset	N2
T10 R3 WELS	Aroostook	N3
T10 R6 WELS	Aroostook	N3
T10 R7 WELS	Aroostook	N3
T10 R8 WELS	Aroostook	N3
T10 R9 WELS	Piscataquis	N3

T10 SD	Hancock	5
T11 R10 WELS	Aroostook	N3
T11 R11 WELS	Aroostook	N3
T11 R12 WELS	Aroostook	N3
T11 R13 WELS	Aroostook	N2
T11 R14 WELS	Aroostook	N2
T11 R15 WELS	Aroostook	N2
T11 R16 WELS	Aroostook	N2
T11 R17 WELS	Aroostook	N2
T11 R3 NBPP	Washington	5
T11 R4 WELS	Aroostook	4
T11 R7 WELS	Aroostook	N3
T11 R8 WELS	Aroostook	N3
T11 R9 WELS	Aroostook	N3
T12 R10 WELS	Aroostook	N3
T12 R11 WELS	Aroostook	N3
T12 R12 WELS	Aroostook	N3
T12 R13 WELS	Aroostook	N2
T12 R14 WELS	Aroostook	N2
T12 R15 WELS	Aroostook	N2
T12 R16 WELS	Aroostook	N2
T12 R17 WELS	Aroostook	N2
T12 R7 WELS	Aroostook	N3
T12 R8 WELS	Aroostook	N3
T12 R9 WELS	Aroostook	N3
T13 R10 WELS	Aroostook	N3
T13 R11 WELS	Aroostook	N3
T13 R12 WELS	Aroostook	N3

T13 R13 WELS	Aroostook	N2
T13 R14 WELS	Aroostook	N2
T13 R15 WELS	Aroostook	N2
T13 R16 WELS	Aroostook	N2
T13 R5 WELS	Aroostook	N3
T13 R7 WELS	Aroostook	N3
T13 R8 WELS	Aroostook	N3
T13 R9 WELS	Aroostook	N3
T14 R10 WELS	Aroostook	N3
T14 R11 WELS	Aroostook	N3
T14 R12 WELS	Aroostook	N3
T14 R13 WELS	Aroostook	N2
T14 R14 WELS	Aroostook	N2
T14 R15 WELS	Aroostook	N2
T14 R16 WELS	Aroostook	N2
T14 R5 WELS	Aroostook	N3
T14 R6 WELS	Aroostook	N3
T14 R7 WELS	Aroostook	N3
T14 R8 WELS	Aroostook	N3
T14 R9 WELS	Aroostook	N3
T15 R10 WELS	Aroostook	N3
T15 R11 WELS	Aroostook	N3
T15 R12 WELS	Aroostook	N3
T15 R13 WELS	Aroostook	N2
T15 R14 WELS	Aroostook	N2
T15 R15 WELS	Aroostook	N2
T15 R5 WELS	Aroostook	N3
T15 R6 WELS	Aroostook	N3

T15 R8 WELS	Aroostook	N3
T15 R9 WELS	Aroostook	N3
T16 MD	Hancock	N1
T16 R12 WELS	Aroostook	N3
T16 R13 WELS	Aroostook	N2
T16 R14 WELS	Aroostook	N2
T16 R4 WELS	Aroostook	4
T16 R5 WELS	Aroostook	4
T16 R6 WELS	Aroostook	4
T16 R8 WELS	Aroostook	4
T16 R9 WELS	Aroostook	4
T17 R12 WELS	Aroostook	N3
T17 R13 WELS	Aroostook	N2
T17 R14 WELS	Aroostook	N2
T17 R3 WELS	Aroostook	4
T17 R4 WELS	Aroostook	4
T18 MD BPP	Washington	N1
T18 R10 WELS	Aroostook	N3
T18 R11 WELS	Aroostook	N3
T18 R12 WELS	Aroostook	N3
T18 R13 WELS	Aroostook	N2
T19 ED BPP	Washington	N1
T19 MD BPP	Washington	N1
T19 R11 WELS	Aroostook	N3
T19 R12 WELS	Aroostook	N3
T2 R10 WELS	Piscataquis	N3
T2 R12 WELS	Piscataquis	N3
T2 R13 WELS	Piscataquis	N3

T2 R4 WELS	Aroostook	4
T2 R8 NWP	Penobscot	6
T2 R8 WELS	Penobscot	N3
T2 R9 NWP	Penobscot	6
T2 R9 WELS	Piscataquis	N3
T22 MD	Hancock	N1
T24 MD BPP	Washington	N1
T25 MD BPP	Washington	N1
T26 ED BPP	Washington	N1
T28 MD	Hancock	N1
T3 Indian Purchase Twp	Penobscot	6
T3 ND	Hancock	N1
T3 R1 NBPP	Penobscot	N1
T3 R10 WELS	Piscataquis	N3
T3 R11 WELS	Piscataquis	N3
T3 R12 WELS	Piscataquis	N3
T3 R13 WELS	Piscataquis	N3
T3 R3 WELS	Aroostook	4
T3 R4 BKP WKR	Somerset	N2
T3 R4 WELS	Aroostook	4
T3 R5 BKP WKR	Somerset	N2
T3 R7 WELS	Penobscot	N3
T3 R8 WELS	Penobscot	N3
T3 R9 NWP	Penobscot	6
T30 MD BPP	Washington	N1
T32 MD	Hancock	N1
T34 MD	Hancock	N1
T35 MD	Hancock	N1

T36 MD BPP	Washington	N1
T37 MD BPP	Washington	N1
T39 MD	Hancock	N1
T4 Indian Purchase Twp	Penobscot	6
T4 R10 WELS	Piscataquis	N3
T4 R11 WELS	Piscataquis	N3
T4 R12 WELS	Piscataquis	N3
T4 R13 WELS	Piscataquis	N3
T4 R14 WELS	Piscataquis	N2
T4 R15 WELS	Piscataquis	N2
T4 R17 WELS	Somerset	N2
T4 R3 WELS	Aroostook	4
T4 R5 NBKP	Somerset	N2
T4 R7 WELS	Penobscot	N3
T4 R8 WELS	Penobscot	N3
T4 R9 NWP	Piscataquis	6
T4 R9 WELS	Piscataquis	N3
T40 MD	Hancock	N1
T41 MD	Hancock	N1
T42 MD BPP	Washington	N1
T43 MD BPP	Washington	N1
T5 R11 WELS	Piscataquis	N3
T5 R12 WELS	Piscataquis	N3
T5 R14 WELS	Piscataquis	N2
T5 R15 WELS	Piscataquis	N2
T5 R17 WELS	Somerset	N2
T5 R18 WELS	Somerset	N2
T5 R19 WELS	Somerset	N2

T5 R20 WELS	Somerset	N2
T5 R6 BKP WKR	Somerset	N2
T5 R7 BKP WKR	Somerset	N2
T5 R7 WELS	Penobscot	N3
T5 R8 WELS	Penobscot	N3
T5 R9 WELS	Piscataquis	N3
T6 ND BPP	Washington	N1
T6 R1 NBPP	Washington	N1
T6 R10 WELS	Piscataquis	N3
T6 R11 WELS	Piscataquis	N3
T6 R12 WELS	Piscataquis	N3
T6 R13 WELS	Piscataquis	N3
T6 R14 WELS	Piscataquis	N2
T6 R15 WELS	Piscataquis	N2
T6 R17 WELS	Somerset	N2
T6 R18 WELS	Somerset	N2
T6 R6 WELS	Penobscot	N3
T6 R7 WELS	Penobscot	N3
T6 R8 WELS	Penobscot	N3
T7 R10 WELS	Piscataquis	N3
T7 R11 WELS	Piscataquis	N3
T7 R12 WELS	Piscataquis	N3
T7 R13 WELS	Piscataquis	N3
T7 R14 WELS	Piscataquis	N2
T7 R15 WELS	Piscataquis	N2
T7 R16 WELS	Somerset	N2
T7 R17 WELS	Somerset	N2
T7 R18 WELS	Somerset	N2

T7 R19 WELS	Somerset	N2
T7 R5 WELS	Aroostook	N3
T7 R6 WELS	Penobscot	N3
T7 R7 WELS	Penobscot	N3
T7 R8 WELS	Penobscot	N3
T7 R9 NWP	Piscataquis	N3
T7 R9 WELS	Piscataquis	N3
T7 SD	Hancock	5
T8 R10 WELS	Piscataquis	N3
T8 R11 WELS	Piscataquis	N3
T8 R14 WELS	Piscataquis	N2
T8 R15 WELS	Piscataquis	N2
T8 R16 WELS	Somerset	N2
T8 R17 WELS	Somerset	N2
T8 R18 WELS	Somerset	N2
T8 R19 WELS	Somerset	N2
T8 R3 NBPP	Washington	5
T8 R3 WELS	Aroostook	N3
T8 R4 NBPP	Washington	5
T8 R5 WELS	Aroostook	N3
T8 R6 WELS	Penobscot	N3
T8 R7 WELS	Penobscot	N3
T8 R8 WELS	Penobscot	N3
T8 R9 WELS	Piscataquis	N3
T9 R10 WELS	Piscataquis	N3
T9 R11 WELS	Piscataquis	N3
T9 R12 WELS	Piscataquis	N3
T9 R13 WELS	Piscataquis	N2

T9 R14 WELS	Piscataquis	N2
T9 R15 WELS	Piscataquis	N2
T9 R16 WELS	Somerset	N2
T9 R17 WELS	Somerset	N2
T9 R18 WELS	Somerset	N2
T9 R3 WELS	Aroostook	N3
T9 R4 WELS	Aroostook	N3
T9 R5 WELS	Aroostook	N3
T9 R7 WELS	Aroostook	N3
T9 R8 WELS	Aroostook	N3
T9 R9 WELS	Piscataquis	N3
T9 SD	Hancock	5
TA R10 WELS	Piscataquis	N3
TA R11 WELS	Piscataquis	N3
TA R2 WELS	Aroostook	4
TA R7 WELS	Penobscot	6
TB R10 WELS	Piscataquis	N3
TB R11 WELS	Piscataquis	N3
TC R2 WELS	Aroostook	N3
TD R2 WELS	Aroostook	N3
TX R14 WELS	Piscataquis	N2
Talmadge	Washington	N1
Taunton & Raynham Academy Grant	Somerset	6
Temple	Franklin	8
The Forks Plt	Somerset	N2
Thomaston	Knox	1
Thorndike	Waldo	7
Thorndike Twp	Somerset	N2

Tim Pond Twp	Franklin	8
Tomhegan Twp	Somerset	6
Topsfield	Washington	5
Topsham	Sagadahoc	2
Township 6 North of Weld	Franklin	8
Township C	Oxford	N2
Township D	Franklin	8
Township E	Franklin	8
Tremont	Hancock	7
Trenton	Hancock	7
Trescott Twp	Washington	5
Trout Brook Twp	Piscataquis	N3
Troy	Waldo	7
Turner	Androscoggin	2
Union	Knox	1
Unity	Waldo	7
Unity Twp	Kennebec	2
Upper Cupsuptic Twp	Oxford	N2
Upper Enchanted Twp	Somerset	N2
Upper Molunkus Twp	Aroostook	4
Upton	Oxford	N2
Van Buren	Aroostook	4
Vanceboro	Washington	5
Vassalboro	Kennebec	2
Veazie	Penobscot	1
Veazie Gore	Penobscot	N3
Verona Island	Hancock	7
Vienna	Kennebec	2

Vinalhaven	Knox	1
Wade	Aroostook	4
Waite	Washington	5
Waldo	Waldo	7
Waldoboro	Lincoln	1
Wales	Androscoggin	2
Wallagrass	Aroostook	4
Waltham	Hancock	5
Warren	Knox	1
Washburn	Aroostook	4
Washington	Knox	1
Washington Twp	Franklin	8
Waterboro	York	3
Waterford	Oxford	8
Waterville	Kennebec	2
Wayne	Kennebec	2
Webbertown Twp	Aroostook	N3
Webster Plt	Penobscot	5
Weld	Franklin	8
Wellington	Piscataquis	6
Wells	York	3
Wesley	Washington	N1
West Bath	Sagadahoc	2
West Forks Plt	Somerset	N2
West Gardiner	Kennebec	2
West Middlesex Canal Grant	Somerset	N2
West Paris	Oxford	8
Westbrook	Cumberland	3

Westfield	Aroostook	4
Westmanland	Aroostook	4
Weston	Aroostook	4
Westport Island	Lincoln	1
Whitefield	Lincoln	1
Whiting	Washington	5
Whitneyville	Washington	5
Williamsburg Twp	Piscataquis	6
Willimantic	Piscataquis	6
Wilton	Franklin	8
Windham	Cumberland	3
Windsor	Kennebec	2
Winn	Penobscot	5
Winslow	Kennebec	2
Winter Harbor	Hancock	5
Winterport	Waldo	7
Winterville Plt	Aroostook	N3
Winthrop	Kennebec	2
Wiscasset	Lincoln	1
Woodland	Aroostook	4
Woodstock	Oxford	8
Woodville	Penobscot	5
Woolwich	Sagadahoc	2
Wyman Twp	Franklin	8
Yarmouth	Cumberland	3
York	York	3