

MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS OF MAINE

1911

BEING THE



ANNUAL REPORTS

OF THE VARIOUS

DEPARTMENTS AND INSTITUTIONS

For the Year 1910.

VOLUME IV.

AUGUSTA
KENNEBEC JOURNAL PRINT
1911

SIXTH BIENNIAL REPORT

OF THE

State Survey Commission

OF THE

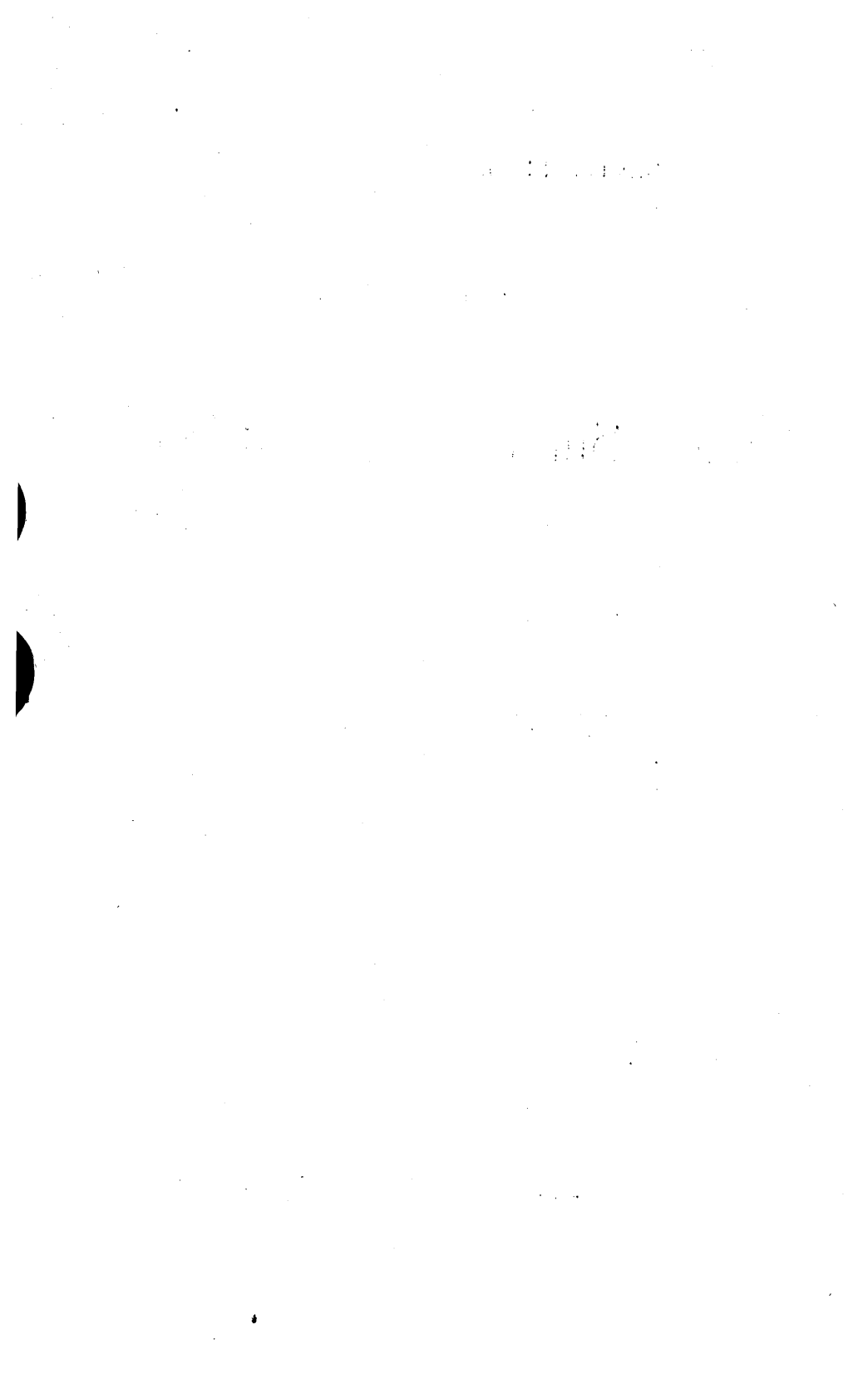
STATE OF MAINE

1909-1910

AUGUSTA

KENNEBEC JOURNAL PRINT

1911



STATE OF MAINE.

STATE SURVEY COMMISSION.

To His Excellency, Bert M. Fernald, Governor, and the Honorable Council.

GENTLEMEN:—We have the honor to submit herewith the Sixth Biennial Report of the State Survey Commission for the years 1909-1910.

AUTHORIZATIONS.

This Commission was created by act of the State Legislature, March 16, 1899. Its powers were subsequently amended and enlarged by an act approved March 23, 1905, whereby its labors were extended to cover not only a topographic survey of the State as theretofore, but also the following duties: to provide for the preparation and completion of a topographic map of the State, in continuation of the plan by which the entire area of the United States will ultimately be mapped; to investigate and map out the water resources of the streams, lakes and ponds of the State with reference to the complete development of its water power; and to examine, map and report upon the geological occurrence, nature, location and extent of such mineral products as may appear to be of value.

From its inception, the State Survey Commission has continuously co-operated with the United States Geological Survey in the prosecution of all branches of its work in this State, hydrographic, topographic and geologic.

By the terms of the act of Legislature of April 2, 1909, creating a State Water Storage Commission, the State Survey Commission was directed to place at the disposal of the State Water Storage Commission all information and copies of reports, maps and plans collected by them and bearing on the hydrography of the State. This has been cheerfully done, and the accumulated data of the State Survey Commission's labors

covering more than a decade have been freely placed at the disposal of the newly created commission. By virtue of an agreement entered into on December 1, 1909, between the Chairmen of the two State Commissions and the Director of the United States Geological Survey, the hydrographic work in the State during the thirteen months ending December 31, 1910, was conducted co-operatively by joint application of the amounts respectively appropriated by each for hydrographic work under the direction of Mr. Cyrus C. Babb, of the United States Geological Survey, acting as district engineer.

RESULTS OF WORK.

The work of this Commission has been carried on under three heads: Topography, the results appearing in the standard quadrangles of the U. S. Geological Survey; Hydrography, divided into two sections, special river and lake surveys, and stream gagings; Geology, the results appearing in the various publications of the U. S. Geological Survey.

TOPOGRAPHIC SURVEYS.

Atlas Sheets.

The results of the topographic work are published from time to time in the standard topographic sheets of the U. S. Geological Survey. The unit of publications is an atlas sheet showing a tract (quadrangle) 15' in extent each way or from 203 to 226 square miles, varying with the latitude. The scale is 1: 62,500 or about one mile to an inch. Contours, or lines of equal elevation, are shown with a 20-foot interval. These sheets are sold by the U. S. Geological Survey at the rate of five cents a sheet. When one hundred or more are ordered, the rate is \$3.00 per hundred.

Fifty sheets have been issued for the State of Maine, named as follows: Eastport, Petit Manan, Cherryfield, Bar Harbor; Swan Island, Mt. Desert, Ellsworth, Deer Isle, Bluehill, Orland, Orono, Matinicus, Vinalhaven, Castine, Penobscot Bay, (Scale 1: 125,000), Bucksport, Bangor, Tenants Harbor, Rockland, Monhegan, Boothbay, Wiscasset, Vassalboro, Waterville, Small Point, Bath, Gardiner, Augusta, Norridgewock, Anson, Bingham, The Forks, Casco Bay, Freeport, Lewiston, Biddeford, Portland, Gray, Poland, York, Kennebunk, Buxton, Se-

bago, Norway, Dover, Berwick, Newfield, Fryeburg, North Conway, N. H., and Gorham, N. H.

The following sheets are in course of publication: Kezar Falls, Livermore and Buckfield.

HYDROGRAPHY.

Stream Measurements.

Gaging stations in this State have now been maintained for the past decade, and valuable data have been obtained.

In the words of the Consulting Engineer of the New York Water Supply Commission:

Accurate measurements of the stream flow or run-off and of the precipitation to determine the water yield of a given territory are the indispensable preliminaries to all study of regulation by water storage, and constitute the foundation of the entire structure of computations and estimates which determine in every case to what extent the construction of reservoirs can be justified on engineering and economic grounds.

The following is a list of the various gaging stations in the State that have been maintained from time to time with the length of record of each.

List of Gaging Stations in Maine.

- St. John River at Fort Kent (1905-1910).
- Fish River at Wallagrass (1903-1908).
- Aroostook River at Fort Fairfield (1903-1910).
- St. Croix River at Woodland (1902-1910).
- St. Croix River near Baileyville (1910).
- Machias River at Whitneyville (1903-1910).
- Union River at Ellsworth (1908-1910).
- Union River at Amherst (1909-1910).
- Green Lake Stream at Lakewood (1909-1910).
- Branch Lake Stream near Ellsworth (1909-1910).
- West Branch Penobscot River at Millinocket (1901-1910).
- Penobscot River at West Enfield (1902-1910).
- East Branch Penobscot River at Grindstone (1902-1910).
- Mattawamkeag River at Mattawamkeag (1902-1910).
- Piscataquis River at Foxcroft (1902-1910).
- Cold Stream at Enfield (1904-1906).
- Kenduskeag River near Bangor (1908-1910).
- Phillips Lake and outlets (1904-1908).
- Moose River at Rockwood (1902-1908 and 1910).
- Moosehead Lake at Greenville (1903-1910, stage only).
- Moosehead Lake at East Outlet (1895-1910, stage only).
- Kennebec River at The Forks (1901-1910).

Kennebec River at Bingham (1907-1910).
Kennebec River at North Anson (1901-1907).
Kennebec River at Waterville (1893-1910).
Roach River at Roach River (1901-1908).
Dead River at The Forks (1901-1907 and 1910).
Carrabassett River at North Anson (1901-1907).
Sandy River at Farmington (1910).
Sandy River at Madison (1904-1908).
Messalonskee Stream at Waterville (1903-1905).
Sebasticook River at Pittsfield (1908-1910).
Cobbosseecontee Stream at Gardiner (1890-1910).
Androscoggin River at Errol, N. H. (1905-1910).
Androscoggin River at Gorham, N. H. (1903) fragmentary.
Androscoggin River at Shelburne, N. H. (1903-1907 and 1910).
Androscoggin River at Rumford Falls (1892-1910).
Androscoggin River at Dixfield (1902-1908).
Presumpscot River at Outlet of Sebago Lake (1887-1910).
Saco River near Center Conway, N. H. (1903-1910).
Saco River at West Buxton (1907-1910).

River and Lake Surveys.

In 1904, special surveys were started of the more important rivers and lakes of the State, and have been continued to date. The resulting maps as issued, are distributed without charge to interested parties. The river maps, generally on a scale of 1"=2000 ft., show the plan of the river and the nature of the topography along the banks, by contour lines. On each sheet is also shown the profile of that section of the river covered by the sheet in question. These maps show not only present water power developments along the river, but also any undeveloped falls or rips where water powers might be developed. From these maps can be obtained a close estimate of the total horsepower that can be developed at the various points when studied in connection with stream gaging records.

The lake maps now issued for a large number of the more important lakes and ponds of the State are often on a scale of 1"=4000 ft. and larger. Detailed drawings, generally on a scale of 1"=200 ft. are often given of the outlets of the lakes. These maps in general show the high water and low water line, and in some cases, sub-contour lines, or shore lines that would result if the lakes in question should be drawn five or ten feet below present stages. There are also shown 5, 10 and sometimes 15 and 20-ft. contours above high water line. Soundings of the lakes are shown in some cases. These maps are of spe-

cial use in computing the capacities in cubic feet of the lakes when used as storage reservoirs.

The following is a list of these maps to date. They are issued upon request, to interested parties as long as the edition lasts.

RIVER AND LAKE SURVEYS.

Kennebec Basin.

1. Kennebec River, Skowhegan to The Forks, Sheet No. 1.
2. Kennebec River, Skowhegan to The Forks, Sheet No. 2.
3. Kennebec River, Skowhegan to The Forks, Sheet No. 3.
4. Kennebec River, Skowhegan to The Forks, Sheet No. 4.
5. Kennebec River, The Forks to Moosehead Lake.
6. Kennebec River, Profile, Tidewater to Moosehead Lake.
7. Brassua Lake and plan of outlet.
8. Wood Pond and plan of outlet.
9. Attean Pond.
10. Long Pond; Holeb Pond; Moose River, Moosehead Lake to Brassua Lake.
11. Flagstaff Lake; West Carry Pond; Spring Lake; Spencer Ponds; Middle Roach Pond; Lower Roach Pond.

Penobscot Basin.

12. Penobscot River, Bangor to North Twin Lake, Sheet No. 1.
13. Penobscot River, Bangor to North Twin Lake, Sheet No. 2.
14. Penobscot River, Bangor to North Twin Lake, Sheet No. 3.
15. Penobscot River, Bangor to North Twin Lake, Sheet No. 4.
16. Penobscot River, Bangor to North Twin Lake, Sheet No. 5.
17. West Branch Penobscot River, Chesuncook Lake to Ambejejus Lake, Sheet 1.
18. West Branch Penobscot River, Chesuncook Lake to Ambejejus Lake, Sheet 2.
19. West Branch Penobscot River, Chesuncook Lake to Ambejejus Lake, Sheet 3.
20. East Branch Penobscot River, First Grand Lake to Medway, Sheet 1.
21. East Branch Penobscot River, First Grand Lake to Medway, Sheet 2.
22. East Branch Penobscot River, First Grand Lake to Medway, Sheet 3.
23. Chamberlain, Telos, and Webster Lakes and Round Pond.
24. Baskahegan, First and Second Grand and Allagash Lakes.
25. Mattawamkeag River, mouth to No. Bancroft, Sheet No. 1.
26. Mattawamkeag River, mouth to No. Bancroft, Sheet No. 2.
27. Mattawamkeag River, mouth to No. Bancroft, Sheet No. 3.
28. Schoodic, Seboois, Endless and Mattawamkeag Lakes and Pleasant Pond.

29. West Branch Penobscot River, Chesuncook Lake to Seeboomook, Sheet No. 1.
30. West Branch Penobscot River, Chesuncook Lake to Seeboomook, Sheet No. 2.

Androscoggin Basin.

31. Androscoggin River, Brunswick to Umbagog Lake—profile only—Sheet No. 1.
32. Androscoggin River, Brunswick to Umbagog Lake—profile only—Sheet No. 2.
33. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 3.
34. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 4.
35. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 5.
36. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 6.
37. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 7.
38. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 8.
39. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 9.
40. Androscoggin River, Brunswick to Umbagog Lake—plan and profile—Sheet No. 10.
41. Umbagog, Lower and Upper Richardson Lakes. Sheet No. 1.
42. Mooselucmaguntic Lake. Sheet No. 2.
43. Mooselucmaguntic and Richardson Lakes, Outlet plans. Sheet 3.

Union River Basin.

44. Abraham, Scammons and Molasses Ponds and Webbs Pond Outlet. Sheet No. 1.
45. Alligator, Rocky and Spectacle Ponds. Sheet No. 2.
46. Great Pond, Green Lake Outlet and Branch Lake Outlet. Sheet No. 3.
47. Union River, Ellsworth to Great Pond. Sheet No. 1.
48. Union River, Ellsworth to Great Pond. Sheet No. 2.

PUBLICATIONS.

The results of the work in the State have appeared in the various publications of the U. S. Geological Survey as described below. The following abbreviations are used: A, Annual Report; Pt, Part; M, Monograph; P, Professional Paper; B, Bulletin; W, Water Supply Paper; M. R., Mineral Resources:

G. F., Geological Folio. The map work has been previously described.

Stream Measurements.

Report of progress of stream measurements for 1897.....	A	19,	Pt. 4
Operations at river stations for 1898.....	W	27	
Report of progress of stream measurements for 1898.....	A	20,	Pt. 4
Operations at river stations for 1899.....	W	35	
Report of progress of stream measurements for 1899.....	A	21,	Pt. 4
Operations at river stations for 1900.....	W	27	
Report of progress of stream measurements for 1900.....	A	22,	Pt. 4
Operations at river stations for 1901.....	W	65	
Report of progress of stream measurements for 1901.....	W	75	
Report of progress of stream measurements for 1902.....	W	82	
Report of progress of stream measurements for 1903.....	W	97	
Report of progress of stream measurements for 1904.....	W	124	
Report of progress of stream measurements for 1905.....	W	165	
Water Resources of Kennebec River Basin by H. K. Barrows	W	198	
Surface Water Supply of New England, 1906.....	W	201	
Surface Water Supply of the North Atlantic Coast, 1907, 1908	W	241	
Surface Water Supply of the North Atlantic Coast, 1909..	W	261	
Index to hydrographic progress reports of the U. S. Geological Survey, 1888 to 1903 inclusive.....	W	119	
Turbine water-wheels and power tables by R. E. Horton..	W	180	
Weir experiments, coefficients and formulas, by R. E. Horton	W	200	

Water Resources.

Natural mineral waters of the United States.....	A	14,	Pt. 2
Water power streams of Maine by Dwight Porter.....	A	19,	Pt. 4
List and analysis of the mineral springs of the United States, by A. C. Peale.....	B	32	
Water powers of the State of Maine, by H. A. Pressey....	W	69	
Normal and polluted waters in northeastern United States by M. O. Leighton	W	79	
Contributions to the hydrology of eastern United States by M. L. Fuller	W	102	
Underground waters of eastern United States, by M. L. Fuller	W	114	
Index to papers on underground waters.....	W	120	
The normal distribution of chlorine in the natural waters of New York and New England, by D. D. Jackson.....	W	144	
Contributions to the hydrology of eastern United States by M. L. Fuller	W	145	
Underground waters of southern Maine by F. G. Clapp....	W	223	

Water resources of the Kennebec River basin, by H. K. Barrows	W 198
Pollution of streams by sulphite-pulp waste, by E. B. Phelps	W 226
Quality of surface waters in the U. S., by R. B. Dole.....	W 236
Water resources of the Penobscot Basin, by H. K. Barrows	(In preparation)

Geology.

Geology of the Island of Mt. Desert, Me., by N. S. Shaler..	A 8, Pt. 2
The glacial gravels of Maine and their associated deposits by G. H. Stone	M 34
The geology of the Perry Basin in southeastern Maine, by G. O. Smith and David White	P 35
Contributions to the geology of Maine, by H. S. Williams and H. E. Gregory	B 165
Contributions to economic geology (gold) 1903 by S. F. Emmons and C. W. Hayes	B 225
Contributions to economic geology (molybdenite) 1904, by S. F. Emmons and C. W. Hayes	B 260
Slate deposits and slate industry of the United States by T. N. Dale	B 275
Contributions to economic geology, 1905, by S. F. Emmons and E. C. Eckel	B 285
Lime and magnesia in Maine.....	B 285 j
Clays of the Penobscot Bay Region, by E. S. Bastin..	B 285 l
Slates in Maine	B 285 m
Graphite in Maine	B 285 o
The granites of Maine, by T. N. Dale.....	B 313
Contributions to economic geology, 1906, by S. F. Emmons and E. C. Eckel	B 315
Mineral prospect near Ayer Junction, by G. O. Smith..	B 315 c
Building stone and road material in New England..	B 315 j
Quartz and feldspar in Maine and New York.....	B 315 l
Contributions to economic geology, 1907, by C. W. Hayes and Waldemar Lindgren	B 340
Maine, Molybdenum	B 340 d
Geologic Folio, Penobscot Bay district.....	G F 149
Geologic Folio, Rockland district	G F 158
Mineral resources, yearly statistics	M R
Peat deposits of Maine, by E. S. Bastin and C. A. Davis....	B 376
Some ore deposits of Maine and the Milan mine, N. H., by W. H. Emmons	B 432
Geology of the pegmatites and associated rocks of Maine, by E. S. Bastin, (in press).....	B 445
Feldspar deposits of the United States (Maine), by E. S. Bastin	B 420

Miscellaneous.

Boundaries of the United States and of the several states and territories, etc., by Henry Gannett.....	B 226
Results of spirit leveling in Maine, N. H., & Vt., 1896 to 1909, inclusive, by R. B. Marshall.....	B 437
A dictionary of altitudes in the United States (5th edition), by Henry Gannett	(In press)
Papers on the conservation of water resources.....	W 234
Public utility of water powers and their governmental regulation, by René Tavernier and M. O. Leighton.....	W 238

CURRENT OPERATIONS.

TOPOGRAPHY.

From the joint allotments of the State Survey Commission and the United States Geological Survey during the period covered by this report were defrayed the expenditures covering the survey of the following areas:

The Fryeburg quadrangle, in Oxford and Cumberland counties, the Livermore quadrangle, in Androscoggin and Kennebec counties, and the Kezar Falls quadrangle, in Oxford, York and Cumberland counties, consisting of approximately 215 sq. miles each, were completely surveyed; of the Ellsworth quadrangle, in Hancock county, the remaining 62 square miles were mapped and 130 square miles were surveyed of the Buckfield quadrangle, in Oxford and Androscoggin counties.

The total area mapped was 837 square miles, for publication on the scale of 1:62,500 with a contour interval of 20 feet.

In addition to the above, triangulation was extended over the Livermore, Buckfield, Bethel and Bryants Pond quadrangles, and partial secondary control was secured for the Waldoboro quadrangle in Knox and Lincoln counties.

During the field work incident to the above topographic mapping, there were located 13 trigonometric points, there were run 167 miles of primary levels, 1397 miles of secondary levels, in connection with which 31 permanent bench marks, 528 temporary bench marks and 11,178 useful elevations were determined. There were also run 358 miles of stadia traverse of rivers and ponds, 1128 miles of road traverse and 376 miles of tape traverse.

The topographic map is the base upon which the field investigations of the geologists and hydrographers are recorded, which makes possible a broader and more general study of the results than is otherwise practicable. The expense of making such maps, however, is, in most instances, in excess of the resources at the disposal of the State and the lack of skilled men required for such surveys is a barrier not easily surmounted. Competent topographers are rare, since there is so little opportunity for steady employment in this line of work outside of the U. S. Geological Survey. By co-operating with the Federal Survey it is apparent that the opportunities for systematic mapping are greatly increased to the State.

The benefits to the State from such co-operation are numerous. It gains a complete topographic map of its area, which is of importance in the development of its numerous resources and greatly facilitates the study and perfection of all engineering plans and works. Such maps serve as preliminary maps for planning engineering projects. Highways, electric roads, railroads, aqueducts, and sewerage plants may be laid out on them, and the cost of preliminary surveys saved. Areas of catchment for water supply, sites for reservoirs, and routes for canals may be ascertained from these maps. They are indispensable to a State for showing the location, extent, and accessibility of lands, waters, forests and valuable minerals.

It is believed that the value of this co-operative work can not be overestimated in its connection with the general development of the State and it is earnestly hoped that the Legislature will fully appreciate its importance and continue the work until the State has been completely mapped, it being understood that in such co-operative work the disbursements of the State are to be matched by equal appropriations from the funds available to the Federal Survey.

GEOLOGY.

Following is a summary of geologic work in Maine, done in co-operation between the Maine State Survey Commission and the U. S. Geological Survey, during the period covered by this report.

1909.

Mr. W. H. Emmons of the U. S. Geological Survey spent two months in studying the ore deposit of Maine. His report was published in 1910 as Bulletin No. 432 of the U. S. Geological Survey, and about 1300 copies of this report have been distributed to date.

Edson S. Bastin spent six months of the year in office and laboratory work upon the pegmatite deposits of Maine and the geology of the Eastport quadrangle. A report on the geology of the pegmatite deposits was completed November 29, 1909, and is now in press. It will form Bulletin No. 445 of the U. S. Geological Survey.

The feldspar deposits of Maine were described (18 pages and map) in Bulletin No. 420 of the U. S. Survey on the Feldspar Deposits of the United States. This bulletin was prepared by Mr. Bastin during 1909 and published in 1910.

C. L. Breger spent 5 months as assistant to Mr. Bastin in office work upon the geology of the Eastport quadrangle.

C. W. Brown spent portions of two months in continuing office work on the Frenchman's Bay folio.

The bulletin on the peat deposits of Maine, by E. S. Bastin and C. A. Davis, completed in previous years, was published in 1909 as Bulletin No. 376 of the U. S. Geological Survey. To date 3400 copies of this have been distributed.

1910.

No new geologic work in Maine was undertaken during the calendar year 1910.

Edson S. Bastin spent one and one-half months in the field and three months in the office in completing the study of the geology of the Eastport quadrangle.

In June, 1910, a contract was entered into between the U. S. Geological Survey and C. W. Brown for the completion of the Frenchman's Bay folio by January 1, 1911, compensation to be a lump sum of \$400, paid by the U. S. Geological Survey.

HYDROGRAPHY.

The regular stream gaging work has been continued during both years covered by this report. During 1909, a number of new stations were established in the Union River Basin in

connection with the investigations of storage undertaken there. During 1910, a review of the gaging stations was made. Some were discontinued; others that had been previously discontinued were reestablished; while other entirely new stations were established. These changes are shown on the list of gaging stations on pages 5 and 6.

During 1909 surveys were made of Union River from Ellsworth to Great Pond and the following lakes and ponds in the Union River basin: Abraham, Scammons, Molasses, Spectacle, Rocky, Great and Alligator. In the Androscoggin basin, the following lakes were mapped: Umbagog, Lower Richardson, Upper Richardson, and Mooselucmaguntic. These maps have been published and are given in the list of pages 7 and 8.

During 1910, the following surveys were made:

Androscoggin River Basin.

Rangeley Lake, Kennebago Lake, Little Kennebago Lake, Pond-in-River, Kennebago River, and Rapid River.

Dead River Basin.

Dead River, mouth to Chain of Ponds; Spencer Stream, mouth to Spencer dam; Little Spencer Stream; South Fork, Dead River, Chain of Ponds, Greenbush Reservoir site, Jim Pond, Tim Pond, King and Bartlett Pond, Little King Pond, and Baker Pond. A level line connection from the head of the South Branch of Dead River to the bench mark at Rangeley was made, thus closing the level circuit of the Kennebec and Androscoggin surveys.

Sandy River Basin.

A cross line level connection was made down the Sandy River, connecting the Dead River, Androscoggin River and Kennebec River levels at Madison. A profile survey of Sandy River was made at the same time.

FINANCIAL STATEMENT.

The disbursements of the State Survey Commission for the period covered by this report have been:

For the year 1909,

For Geology	\$1,425 41
For Hydrography	4,642 90
For Topography	3,961 69
	\$10,000 00

For the year 1910,			
For Geology	623	60	
For Hydrography	4,973	68	
For Topography	3,492	09	9,089 37

OBITUARY.

FRANKLIN CLEMENT ROBINSON.

It is with deep sorrow that we record the death of Franklin C. Robinson, late Chairman of the Maine State Survey Commission, and, ex-officio, State Geologist.

Professor Robinson was a man of marked ability and industry, generous and broad minded, and always responsive to the call of duty, whether by college, city, state or nation. His activities were many. Besides his college work, he was often called for expert advice before courts of law and scientific bodies on the development of disinfection, on the latest practices in the purification of water, and on the geologic resources of the State. He was a past president of the American Public Health Association. For 21 years he was an active member of the State Board of Health for Maine. He was chairman of the Maine State Survey Commission, State Geologist, Professor of Chemistry at Bowdoin College, and member of the following societies: American Chemical Society, American Association for the Advancement of Science, and the Society of Chemical Industry.

He was appointed on the State Survey Commission June 23, 1908, to fill the vacancy caused by the death of Prof. Leslie A. Lee. Professor Robinson died May 25, 1910.

PERSONNEL.

The office of Chairman of the State Survey Commission and State Geologist having been rendered vacant by the death of Prof. Franklin C. Robinson, the position was filled by the appointment of Hon. C. Vey Holman of South Thomaston, who was nominated by His Excellency the Governor on October 18 and confirmed by the Honorable Council on October 28, 1910.

RECOMMENDATIONS.

The value of the work of this Commission as briefly summarized above is so self-evident and has been so fully recognized, that it appears unnecessary to urge the systematic and continuous prosecution of its labors to a final consummation in the interest of the well-settled policy of the State to conserve and develop its natural resources.

Respectfully submitted,

C. VEY HOLMAN,
CHARLES S. HICHBORN,
NATHANIEL M. JONES,
State Survey Commission.

Augusta, Maine, December 31, 1910.