

MAINE STATE LEGISLATURE

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THE LEGISLATURE

OF THE

STATE OF MAINE.

1863.

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1863.

FORTY-SECOND LEGISLATURE.

SENATE.

No. 6.

REPORT

OF

COMMITTEE ON SCIENTIFIC SURVEY.

THE Joint Select Committee, to whom was referred so much of the Governor's Message as relates to the Scientific Survey of the State, having given to the subject their consideration, respectfully beg leave to

REPORT :

That they find the survey to have been in operation for two years past, with an annual appropriation of three thousand dollars. It was instituted by resolves authorizing the Governor and the Secretary of the Board of Agriculture to contract with some suitable person or persons to conduct the same, under the general directions and advice of the persons above named. A contract was accordingly made with Charles H. Hitchcock and Ezekiel Holmes. By the terms of the contract, these chiefs of the survey were excluded from any claim upon the State, either for their own compensation, or for expenses incurred, beyond the sum appropriated. The maximum compensation agreed on *for both* was ten hundred and fifty dollars ; a sum widely in contrast with the liberal salaries often paid by other States for similar services. The expenses incurred and paid by them during the first year amounted to two thousand two hundred and fifty-three dollars ; thus leaving them losers to an amount exceeding three hundred dollars, inasmuch as the expenses lessened by so much the scanty compensation agreed on in case the appropriation proved sufficient. The

expenses of the second year have not yet been fully audited ; and although there may probably be some deficiency, it is hoped it will be small. At no time have less than four persons been engaged on the survey, and sometimes as many as twelve. The most of the scientific assistants have labored without any compensation whatever, (beyond the benefit to themselves in the way of study and practice in the field,) their travelling expenses only being paid.

The objects of the survey are to ascertain and bring to light, and thus to put in the way of development, *all the natural resources* of the State. It was made the duty of those in charge of it to carefully pass over the State and make critical observation of all the rock formations,—to collect, for preservation in the cabinet, specimens of the rocks, minerals and ores,—of the plants and other organized objects ; and to note for publication such facts, in regard to their distribution, location, abundance and facilities for being brought into practical use, as should be presented to them from actual personal observation. This, in fact, is like taking an inventory of the goods and chattels which we possess, or rather like taking an account of stock of the raw material with which Nature has endowed our domain, and stating the place of its deposit and the probable amount which can be relied on for future use. That such knowledge is not only useful, but necessary to the proper conception of what our domain is, and what can be done in and of ourselves, and, consequently, what our prospective wealth and power may become, is self-evident.

Every prudent man deems it necessary to do this in regard to his own private property. The Executive and the Legislature stand in the same capacity to the public domain as an individual proprietor does to his own possessions ; and by parity of reasoning should take the same pains to ascertain what our resources are. That community is the wealthiest and the strongest which possesses the most of the natural resources of industrial material ; *provided*, that while possessing them, they know of their existence, their nature, location and the facilities for bringing them into use, and thus for converting the raw material into actual wealth and power.

Any one who looks upon the map of Maine will see in a moment that so large a territory as we possess requires a corresponding amount of time and labor for its exploration ; and a perusal of the reports of progress will show that what has been gone over has not only been well examined, but has been found to be rich in

geological and other natural products. Indeed, enough has already been discovered to prove that Maine will soon rank high among her sister States, as it regards the abundance and value of her resources, in all the departments of natural products.

A few only of the discoveries in these respects will be alluded to, and these very briefly; first, an abundance of an ore of iron, in some important respects unlike common ores of this metal; the peculiarity of which is, that it will furnish plating for the modern iron-clad ships of war, impenetrable to any shot hitherto invented. This fact was demonstrated by the late experiments of the British Government at Shoeburyness, England, where it was found that a missile which completely shattered such plates as have hitherto been used, both in England and America, merely indented in a slight degree the plates made of iron from Woodstock, N. B., which iron is from ore precisely similar to, and located not far from our own, of which we have inexhaustible quantities.

All the facts obtained by the survey in this connection have been communicated to the proper authorities at Washington, and it would not be strange if immense furnaces, running day and night, like those now operated by the British Government at Woodstock, for plating its own ships, should be erected and worked upon our side of the line. Several abundant deposits of marble and of limestones have been found during the past year in Aroostook county; known deposits of the best limestone of Knox county have been traced to localities hitherto supposed destitute of it; besides which have been found, in various places, ores of copper and of lead, and roofing slates; also Feldspar, suitable for fine potteries; granulated quartz, suitable for glass manufactures; marls of high fertilizing power, or which by slight manipulation may be converted into whitening, and many other valuable minerals and building materials; nor should we omit mention of the discovery of a gold field within our own borders, similar to those of Nova Scotia. This, to say the least of it, is an interesting discovery in a geological point of view, whatever may be the profit ultimately derived from it; regarding this latter point, however, we can say that information has been lately received that several tons of the rock have been crushed, and found to yield profitable returns.

The above are a few of the instances of new information obtained by the geological department of the survey, while the discoveries made in the more intricate, but not less interesting subject of

organic remains, and the developments of the riches of our Botany, Zoology and Entomology, are such as have attracted the attention of the Savans on both sides of the Atlantic, thus giving us an elevated position in the estimation of the scientific portion of the world.

These results are of inestimable importance, and will be of pecuniary value to the community, by adding, as they undoubtedly must, to our industrial pursuits. Mankind must have the products into which the materials, of which we have spoken, are manufactured. The conversion of them from the raw material will open new points of business, create new avenues and stands of employment—will call for more operatives, and thus be the means of checking the tide of emigration of our young and enterprising citizens which for years past has set so strongly against us, draining the State of brains, muscles, power and wealth.

Nor is this all. The fact of our making strenuous exertions to search out and to develop our abundant natural resources, will show to the world an energy and enterprise that all will honor; and prove to the world that we not only have within us the means of great business operations, but also the consciousness that we are able and determined to put them into use.

The expediency of continuing the Survey, we think, can no longer be considered an open question. The deliberate action of two successive legislatures upon this subject, with the voice of the people as manifested last year, by the many numerously signed remonstrances against its discontinuance, when its further prosecution was threatened by the necessity for retrenchment, together with the results of two years experience of its benefits, seem conclusive on this point. It may be well also to remark in this connection, that many interesting facts which have been obtained, necessarily remain in the mental keeping of those engaged in the Survey, to be made public in connection with other points yet to be investigated, and which must be, in a great measure, lost to the State, in case of discontinuance before completion.

In deciding upon the amount to be appropriated during the present year, several considerations should be borne in mind; and first, that the actual cost of the Survey thus far, is not represented by the amount appropriated, inasmuch as it has been conducted at a considerable loss to those who undertook it; next, that several of the scientific assistants have given their labors without any charge,

and this may not be expected to the same extent hereafter. Much private assistance has also been given to the Survey especially by the Portland Natural History Society, by several Superintendents of Railroads in granting free passes, as well as by numerous individuals, in the bestowal of gratuitous labor, hospitalities, conveyance, and in many other ways. Again, if the Survey is to be efficiently conducted, there is imperative need of the services of a competent chemist during the whole year in the laboratory. A great many specimens have already accumulated which require careful analysis to determine their value, and which analysis was impossible for lack of means.

In view of such facts and for the reasons above set forth, together with many others which we refrain from reciting in detail, your Committee recommend a continuance of the Survey, and that four thousand dollars be appropriated for the purpose, and that the accompanying Resolve ought to pass.

Per order.

ISAAC HACKER, *Chairman.*

STATE OF MAINE.

RESOLVE making an appropriation for a continuance
of the scientific survey of the state.

Resolved, That the sum of four thousand dollars be
2 appropriated from the treasury, to be expended under
3 the direction of the governor and secretary of the board
4 of agriculture, in prosecuting a scientific survey of the
5 state, as contemplated in chapter eighty-four of the
6 resolves of eighteen hundred and sixty-one.

STATE OF MAINE.

IN SENATE, February 27, 1863.

Laid on the table on motion of Mr. WOODS, and 350 copies ordered to be printed for the use of the Legislature.

EZRA C. BRETT, *Secretary.*