

**REPORT OF THE STATE  
SEWERAGE  
COMMISSION TO THE  
LEGISLATURE OF 1906**

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Report of the State Sewerage Commission to the Legislature of 1906 by Charles W. Fuller & William T. Hunt & James E. Capstick

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**CHARLES W. FULLER & WILLIAM T. HUNT & JAMES E. CAPSTICK**

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REPORT

OF THE

*New Jersey*  
State Sewerage Commission

[7th] 1905

TO THE

Legislature of 1906

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# REPORT.

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## *To the Legislature:*

The State Sewerage Commission herewith presents its annual report, showing the operations under the act of 1899 and the supplements thereto, during the year 1905. The report of the Secretary gives the details of the Commission's meetings and acts, together with other information regarding the general subject of sewerage and its supervision in the State. The report of the Commission's Treasurer shows the expenditures under the appropriations, all of which were approved by the Governor, after having been passed upon by the Commission. Reports of the sewerage conditions in the various municipalities of the State are given, presenting statistics of much value. Detailed reports are also presented by engineers employed upon various branches of the Commission's work, and by the chemist and bacteriologist. The paper presented by George W. Fuller, engineer, upon the relations of sewage pollution to shell-fish, contains the data upon the subject up to the present. The Commission is confident that the several reports and the numerous facts presented will be found of much value to all interested in this most important branch of public work.

The Commission has found its duties increasing with each year and its field constantly widening, and it is probable that this expansion will continue hereafter, as the growth of municipalities continues and the requirements of proper sewerage are better understood. The population of the State is bound to grow more congested, and as rural communities develop into suburban towns, the demands for sanitary improvements increase even more rapidly. Conditions which caused hardly a murmur of disapproval a generation ago are now regarded as intolerable, and the growth of refinement in the household is reflected in the

government. The introduction of a water-supply requires means to carry away the water after it has been used, and every additional facility for comfort and cleanliness adds to the problem which confronts the sanitary engineer. The increase in the population of the State is largely made up of those who have lived in great cities, and they demand conveniences to which they have been accustomed. Every small town, when undergoing the changes from rural to suburban life, finds itself burdened by the necessity of great works to accommodate the new requirements, and it is inevitable that large debts shall be incurred to meet the demands of the changed conditions. To guide this expenditure, to impress upon the communities the necessity of planning broadly for the future, and to regulate the relations of each with the other, is a task which properly belongs to a State body. The supervision of sewerage is one of the most necessary of these State duties. Not only are the interests of the community constructing works vitally concerned, but there is not one city or town in the State which does not discharge its sewage in a way to affect some other community to some degree. As surely as water must flow down hill, the sewage must find its way to the sea, and it has become evident that even the communities upon the ocean's edge cannot be reckless in the discharge of the fluid wastes without endangering the welfare of others. Political boundaries seldom follow the physical conformation, while sewerage must do so, and complications are certain to arise between communities as a result. Each is necessarily and properly selfish in conserving its own interests, and appeals to State authority are the only means of adjusting the conflicts. This authority cannot be exercised by any rigid rule, and only the most general principles can be adopted to guide action. It is necessary to leave the local bodies as much latitude as possible, yet to be firm in checking error; to concede to one temporary privileges which cannot be granted to all, and to adapt requirements to local conditions, capacity and means. Attempts at iron regulation would either discourage sanitary improvement, or fail in securing obedience. The supervising authority should therefore possess ample power, yet use it cautiously, and no better method of exercising the functions

which sewerage conditions demand has been devised than that which gives a State Commission control. That the subject is not one which could be made a mere branch of other general work has been shown conclusively by this Commission's experience.

During the last year the Sewerage Commission has been able to give much more thorough consideration of the matters before it by means of the increased appropriation allotted it, permitting the employment of experts to ascertain exact chemical and bacterial conditions; to suggest engineering devices, and to advise communities seeking relief. Full reports of these operations are included herewith, and the facts presented are of general importance.

#### THE PASSAIC RIVER.

The State Commission regrets to report that no further progress has been made toward the purification of the Passaic river. It is now nearly ten years since the then Governor, the Hon. John W. Griggs, of Paterson, directed attention to the foulness of the river from the discharge of sewage into the stream. Upon his recommendation, a Commission of three citizens was authorized by the Legislature and appointed by him, consisting of Elias J. Marsh, of Paterson, and Dr. H. C. H. Herold and William T. Hunt, of Newark. An elaborate investigation was made, aided by competent engineers, under the direction of Alphonse Freley, of New York, and Charles E. Jacobson, of Newark. In a report made to the Legislature of 1897, the Commission reported that the condition of the river was so foul from sewage that early remedies were required, for the benefit of property and for the public health. The method proposed was the construction of a trunk sewer from the Falls of the Passaic at Paterson to Newark bay, to collect the sewage from both sides of the river, discharging it into the channel of the Bay, where the flow of the Passaic and Hackensack rivers join. A State commission of three members was suggested, to perform the work, with power to assess the cost upon the several municipalities benefited by the improvement, according to such benefits. The cost of the work was estimated at \$6,500,-



900, and the annual maintenance charge at \$125,000 in 1900 and \$300,000 in 1930. The discharge of the sewage into Newark bay was reported by the Commission to be unobjectionable at that time, owing to the large dilution it would receive, but the plan included a recommendation that provision be made for subsequent purification at the outlet, should it be found necessary. The report was approved by Governor Griggs in a special message forwarding it to the Legislature.

No legislative action was taken at that time, except to refer the report of the Commission to a legislative committee. That committee held several public hearings, and reported that there was considerable opposition to the plan, mainly from the city of Bayonne upon Newark bay, where it was felt that the crude sewage discharge might affect the comfort and health of residents. Objection to the high cost was also made by the officials of several of the cities and towns.

The Legislature of 1898, still disinclined to action, referred the whole subject to a new commission, the members of which were William T. Hunt, James A. Exton, M.D., Herman C. H. Herold, M.D., Charles F. Harrington, Elias J. Marsh, Jr., Charles W. Fuller and William Kent.

No funds were available for the employment of engineering advice by this commission, but numerous sessions were held, and a report was made by a majority of the commission in favor of the trunk sewer plan, while a minority objected. This report was discussed at length in the Legislature of 1899, and an act was finally passed creating the State Sewerage Commission, with William T. Hunt of Essex county, John Hinchliffe of Passaic, Charles W. Fuller of Hudson, Charles F. Harrington of Bergen, and David L. Wallace of Essex, as members. No power to remedy the evil conditions of the Passaic river was conferred upon this Commission, beyond the regulation of further sewerage construction; but in the following year, 1900, at the recommendation of the commission, authority was at last given. In June of 1900 the Commission issued an order to the municipalities on the river to cease the discharge of sewage into the Passaic before June, 1904. The limit of four years was fixed after consultation with the authorities of all the cities and

towns, and with their substantial agreement. No objection was made to the time limit. The law of 1899 had permitted the communities to establish a sewerage district, to include the places offending, with local commissioners, and this act was extended and modified in several details, which will be found set forth in the reports of this Commission.

It was anticipated that measures for either joint action for a trunk sewer or for separate disposal plans would be taken, but time elapsed without event, and the legislative session of 1901 passed without measures for investigation being taken, although it was agreed the report of 1897 should receive further consideration.

Governor Voorhees, after the adjournment of the Legislature of 1901, communicated with the State Commission, and as a result of the conferences, he agreed to allow the Commission the sum of \$8,000 from the emergency fund under his control, and directed a full investigation of the subject to be made. The Commission proceeded at once with a thorough examination of the matter. Messrs. Colin R. Wise and Robert M. Watson of Passaic, William Ferguson of Paterson, and James Owen of Montclair, well-known engineers, were employed for detailed work, and, as advisory engineers, three of national repute were selected, Messrs. Rudolph Hering and J. J. R. Croes of New York, and William M. Brown of Boston. The report of these engineers and of the Commission was embodied in the Commission's annual report to the Legislature at the session of 1902. While favoring the trunk sewer plan of relief, the advisory engineers suggested that the place of final discharge should be the bay of New York, near Robbins Reef Light, instead of Newark bay, preferring this to the plan of Engineer Owen for a purifying plant on the Newark meadows, with a discharge into Newark bay, as less costly. The total cost was estimated at \$9,000,000.

The Legislature of 1902 received this report, and after extended discussion, directed the creation of a District Commission, to be appointed by the Governor, with power to proceed with the construction of a trunk sewer emptying into New York bay. By this act, the entire control of the drainage area of the

Passaic river was placed in the hands of the Commission, and, unfortunately, it practically suspended the order of the State Commission for the removal of sewage from the river in 1904. The District Commission proceeded with its work immediately upon the appointment of the Commissioners, and again caused surveys to be made and a thorough revision of previous investigations was made. The District Commission expended about \$25,000 in this work, and again reported in favor of the trunk sewer plan, with the outfall into New York bay.

Although the courts had had the general scheme of the trunk sewer before them and had given their assent to the methods, in apparently conclusive opinions, the District Commission act was questioned upon constitutional grounds relating to the assessment of the cost, the city of Paterson opposing the act, and the Court of Errors and Appeals, in the early part of this year (1905), declared so much of the act as related to taxation to be void. This deprived the District Commission of means to pay for any part of its work, and compelled it to suspend all action. It did not, however, invalidate other provisions of the law, and as a consequence, the whole question was left in suspense, the District Commission remaining in full control of the Passaic valley sewerage question, yet possessing no powers for remedying the bad conditions. The Legislature took no measures to solve this problem, and there the great work rests.

The condition of the Passaic river meanwhile has grown worse each year, as the volume of sewage has increased, and as the normal fresh-water flow of the river has decreased, by reason of the demands upon the upper river for water-supplies. The injury to property along the banks has been greater each year, checking the natural development of the whole section, and the effect upon health is more obvious now than at any previous time. The conditions, which were bad enough ten years ago to call for early remedy, have now become such as to make failure to provide such remedy a grievous wrong. The effect upon public respect for the machinery of government will be harmful if there continues to be effort without result.

The obstacles which now exist are apparently, first, the difficulty of finding a scheme of assessment which would satisfy