

STATE SANITARY AUTHORITY

MINUTES OF EIGHTH MEETING

May 7, 1940

The regular meeting of the State Sanitary Authority was called to order by Chairman Harold Wendel, in Room 720, Oregon Bldg., Portland, at 9:25 A. M., May 7, 1940.

MINUTES: The minutes of the previous meeting were read and approved. The members present at the beginning of the meeting were Messrs. Albert Burch, John C. Veatch and Harold Wendel. Mr. Blaine Hallock arrived at 10:00 A. M. Dr. Stricker and Mr. Stricklin were absent.

ACTIVITIES REPORT: The secretary distributed copies of the activities report for the months of March and April, 1940, and discussed briefly the contents of the report. After discussion, the activities report was approved.

PROJECT PLANS: The secretary next presented a list of projects for which plans were approved during the two months' period. MOTION: It was moved by Mr. Burch, seconded by Mr. Veatch, and carried, that plans for the projects listed below be formally approved by the Sanitary Authority.

SEWERAGE PROJECT PLANS
APPROVED BY STATE SANITARY ENGINEER

March and April, 1940

<u>DATE</u> 1940	<u>LOCATION</u>	<u>TYPE OF PROJECT</u>
March 15	Silverton	Sewer system extensions, Unit No. 4
22	Salem	Sewer system extensions, Fairmont, Mill and Brooklyn Additions
23	Medford	Bear creek park sewage disposal system

<u>DATE</u> 1940	<u>LOCATION</u>	<u>TYPE OF PROJECT</u>
April 6	Portland	WPA project for location of existing sewers and sewer structures
8	Beaverton	Sewage disposal system, Northwest Home for the Aged
9	Coos County	Cape Arago State Park sewage disposal system
12	Silverton	Sewer system extensions, Unit No. 5
12	Marshfield	City park sewage disposal system approved (Latrine plans not approved)
19	Salem	Sewer extensions, Pleasant Home, Frickey's R. R. and Gravers Additions

INDUSTRIAL WASTE DISPOSAL HEARING: In response to an invitation by the State Sanitary Authority, representatives of pulp and paper industry, the meat packing industry, the woolen mill industry, and the fruit and vegetable processing and canning industry appeared before the board for a mutual discussion of the problems of waste disposal. The following persons were present: Mr. Frank Youngman, Crown-Zellerbach Paper Corp., Mr. Cassius Peck, Crown-Zellerbach Paper Corp., Mr. Irving T. Rau, St. Helens Pulp & Paper Co., Mr. E. A. McCornack and Mr. Arthur Rieling, Northwest Cannery Association, Mr. C. H. Carter, Portland Woolen Mills, Mr. D. W. Hoffman and Mr. E. T. Luther, Swift & Co., and Colonel William A. Aird, Oregon Business and Tax Research.

Chairman Wendel opened the hearing by referring to an article which appeared in the Oregon Journal, on April 27, which stated that stream pollution in the state was increasing and that fish are facing a losing fight for existence.

Mr. Peck, representing Crown-Zellerbach Paper Company, was asked to discuss the problem from the point of view of the company which

he represented. Mr. Peck pointed out that the industry had installed "Save-All" filters and other devices, for the reduction of fiber losses in "white water", and that if any further reduction were needed that the industry would be willing and able to provide for such equipment. He next discussed the problem of sulphite liquor disposal and mentioned that treatment or by-products recovery of this waste has not yet been found to be satisfactory under Oregon conditions. He cited the experience of his company on the Truckee river, in California, in which lack of a satisfactory method of sulphite waste disposal forced the company to dismantle a mill and cease operation. He further stated that it is a debatable question as to whether or not sulphite waste liquor does any harm to streams or stream life, provided it has proper dilution. He suggested that fishermen should be convinced that these wastes are not harming fish life. He would like the Sanitary Authority to carry on basic studies, collect facts, make analyses, etc., for the purpose of proving this contention.

Those persons appearing before the Authority stressed the opinion that industry should not be called upon to provide for waste treatment plants in advance of the construction of sewage treatment plants by cities and especially by the city of Portland.

(A complete transcript of the Industrial Waste Disposal Hearing appears in an appendix to these minutes.)

PORTLAND SEWAGE DISPOSAL PROJECT: Mr. Ed F. Averill, representing the Izaak Walton League, the Anti-Pollution Council, and the Stream Purification League, appeared before the Authority and asked consideration of the Portland disposal project. He asked that the Authority order the city of Portland to proceed with its proposed sewage treatment project to reduce pollution of the Willamette river.

Chairman Wendel reviewed the meeting which the Authority had

with Mayor Carson and City Commissioners Bowes and Riley, of Portland, on December 15, 1939.

Mr. Burch discussed the legal aspects of the case and pointed out the necessity of having adequate data before proceeding with a case in court. Mr. Hallock outlined the need for legal assistance for conducting any court hearing, and asked Mr. Everill whether or not the organizations which he represented might assist in the preparation of a legal brief. Mr. Averill promised to obtain such a brief.

Mr. Hallock suggested that the Authority issue a "show cause order", and cite the city of Portland to appear before the board.

MOTION: It was moved by Mr. Hallock that the Sanitary Authority forthwith promulgate and issue an order in the name of the state of Oregon on the relation of the State Sanitary Authority, directed and addressed to the city of Portland, its mayor and city commissioners, requiring them to appear before the Authority at a time and place therein named, and show cause, if any they have, why the nuisance resulting from the disposal of city sewage shall not be abated. The motion was seconded by Mr. Burch and unanimously carried.

The meeting recessed for lunch at 12:30 P. M., and reconvened at 2:00 P. M.

CLASSIFICATION OF WATERS: After a discussion of the classifications of waters, it was agreed by the members present that the general clause of the standards should remain as written by the secretary.

COOPERATIVE STREAM SURVEYS, O.S.C.: Mr. Veatch reported upon his conference with Chancellor Hunter, of the Oregon System of Higher Education, with reference to cooperative work with the Oregon

State College Engineering Experiment Station, and advised that no definite plan had been worked out as yet, and that Chancellor Hunter was to advise him further regarding these matters.

TUALATIN RIVER PRELIMINARY SURVEY REPORT: The findings and recommendations in the Tualatin river preliminary survey report, prepared by the secretary and the assistant sanitary engineer, were reviewed briefly, and Mr. Burch pointed out the need for sufficient data to warrant reaching definite conclusions.

The secretary advised that plans were being prepared for the use of the State Board of Health mobile bacteriological laboratory, during the summer of 1940, for the purpose of gathering more complete information regarding the bacteriological quality of the Tualatin river water. Chairman Wendel directed that the report submitted by the secretary be accepted and placed on file.

BUDGET 1941-42: In accordance with instructions given on March 1, the secretary prepared and submitted a tentative budget for consideration by the Authority. After a discussion of the various items included, the personnel, salaries, etc., incorporated in the budget estimate, and after having made a reduction of \$800.00 in general expense items of the original \$37,360 budget, (MOTION) it was moved by Mr. Hallock, seconded by Mr. Veatch, and carried, that a budget for the coming biennium of \$36,560 be approved and submitted to the state budget director, who in turn will forward it to the governor for review.

SUMMER ACTIVITIES: The secretary and assistant sanitary engineer discussed plans for work during the summer season of 1940, and advised the Authority of the possible opportunity of utilizing certain Title 6 funds of the Social Security Act which have been budgeted for the division of sanitary engineering of the State Board of Health. It was moved by Mr.

Burch, seconded by Mr. Veatch, and carried, that Chairman Wendel consult Dr. Stricker, state health officer, with reference to the possible use of any funds which may be available for stream pollution studies.

SALARIES: After a discussion of funds available from Sanitary Authority sources and of the salaries approved in the budget for the coming biennium, ^(MOTION) it was moved by Mr. Burch, seconded by Mr. Veatch, and carried, that out of the estimated surplus in Sanitary Authority funds for the year 1940, that the Sanitary Authority pay Mr. C. M. Everts, assistant sanitary engineer, \$260.00 per month for the months of November and December, 1940, and that it turn over to the State Board of Health \$65.00 per month for the months of November and December, 1940, for the payment of additional salary to Carl E. Green, state sanitary engineer, and secretary of the Authority, and that any additional funds which may be available shall be expended for conducting additional work of an investigational character during 1940.

QUORUM: MOTION: It was moved by Mr. Veatch, seconded by Mr. Hallock, and carried, that four members of the Sanitary Authority Board be considered a quorum for the transaction of business.

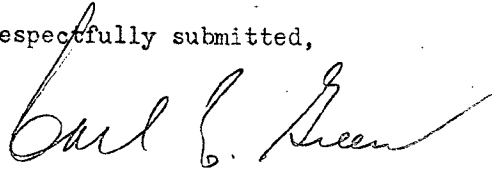
FISH AND GAME FUNDS TO FINANCE SANITARY AUTHORITY WORK? : Chairman Wendel next discussed the matter of the possible use of funds from the Fish and Game Commissions of the state of Oregon, for the purpose of carrying on the activities of the State Sanitary Authority, since, in a large measure, the work of the Sanitary Authority is for the protection and preservation of fish and aquatic life. This matter was thoroughly discussed by the members present, and it was the consensus of opinion that it would be unwise to sponsor a bill in the legislature for the purpose of diverting Fish Commission or Game Commission funds for the use of the Sanitary Authority. Chairman Wendel

asked the secretary to arrange for his appearance before the next regular meeting of the State Game Commission, in order that he might discuss these matters.

RE: PORTLAND SEWAGE DISPOSAL HEARING: It was decided that the city of Portland should be cited to appear before the Authority at 10:00 A. M., June 14, 1940, in compliance with the "show cause order" adopted by the Authority.

There being no further business, the meeting adjourned at 5:00 P. M., to convene at 9:30 A. M., June 21, 1940.

Respectfully submitted,



Carl E. Green, Secretary,
State Sanitary Authority,
State Sanitary Engineer.

STATE SANITARY AUTHORITY
INDUSTRIAL WASTES DISPOSAL HEARING

May 7, 1940

(Appendix to meeting of May 7, 1940)

PERSONS PRESENT

State Sanitary Authority:

Harold F. Wendel, Chairman
Albert Burch
Blaine Hallock
John C. Veatch

Carl E. Green, Secretary
C. M. Everts, Assistant
Sanitary Engineer

Industries:

Pulp and Paper: Irving T. Rau
Cassius Peck
F. N. Youngman

Fruit and Vegetable
Processing and
Canning: E. A. McCormack
Arthur Rieling

Woolen Mills: C. H. Carter

Meat Packing: D. W. Hoffman
E. T. Luther

Oregon Business & Tax Research, Inc.: Colonel William A. Aird

Chairman Wendel opened the hearing by referring to an article which appeared in the Oregon Journal, on April 27, 1940, which stated that stream pollution in the state was increasing and that fish are facing a losing fight for existence.

Mr. Peck, representing Crown-Zellerbach Paper Co., was asked to discuss the problem from the point of view of the company which he represented. Mr. Peck pointed out that the industry had installed "Save-All" filters and other devices, for the reduction of fiber losses in "white water", and that if any further reduction were needed that the industry would be willing and able to provide for such equipment. He next discussed the problem of sulphite liquor disposal and mentioned that treatment or by-products recovery of this waste has not yet been found to be satisfactory under Oregon conditions. He cited the experience of his company on the Truckee river, in California, in which lack of a satisfactory method of sulphite waste disposal forced the company to dismantle a mill and cease operation. He further stated that it is a debatable question as to whether or not sulphite waste liquor does any harm to streams or stream life, provided it has proper dilution. He suggested that fishermen should be convinced that these wastes are not harming fish life. He would like the Sanitary Authority to carry on basic studies, collect facts, make analyses, etc., for the purpose of proving this contention.

Mr. Peck mentioned the importance of the Portland city sewage disposal project in any cleaning up program in the Willamette river basin. He stated that if fish can get through the Portland harbor, they may also get by the Oregon City falls, at which two pulp and paper mills are located. He stated that if studies and tests should show that a real problem existed, his company would tackle the job and that it would be willing to cooperate with the Sanitary Authority in this connection.

Mr. Hallock asked Mr. Peck whether or not the company he represented had made any tests or conducted any studies of sulphite liquor. Mr. Peck replied that it had been done some years ago and that data are available.

Mr. Albert Burch asked, "What is the chemical composition of sulphite liquor?" Mr. Peck explained the process of the manufacture of pulp and paper by the sulphite process, and explained that chemicals, primarily sulphur and lime, were used in the extraction of wood fibers and that the waste liquor contained lignins and other compounds which were separated from the fibers.

Mr. Burch raised the question whether or not the company might cooperate with the Sanitary Authority in the collection of samples. Mr. Burch suggested that the industry might possibly appropriate monies to be used by the Sanitary Authority for studies connected with the disposal of pulp and paper mill wastes.

Mr. Hallock: The state did not appropriate much money with which to work. If we sent engineers to take samples above and below Willamette falls, would it be possible for you to furnish assistance in partly-skilled labor?

Mr. Peck: I would have to take it up with the principals concerned. I would like to see you make a proposition that industries make appropriation for studies of the Willamette river at Willamette falls. If we can't appropriate all the necessary funds, we might work together on a joint appropriation.

Mr. Hallock: That is just about what we thought.

Mr. Peck: Would suggest that the Sanitary Authority determine how much money it might need to make preliminary studies at Willamette falls, and ask those involved as to what they could do about it and how

much help could be obtained.

Mr. Veatch: Who operates the pulp and paper plant at Newberg now?

Mr. Peck: The Spaulding Pulp & Paper Co. Mr. Emery is president of the board of directors and has an office in the Oregonian Bldg., Portland.

Mr. Veatch: You would suggest, then, that the Authority make water tests, probably with your assistance if necessary, if it is ascertained that you will cooperate to the end to eliminate or reduce pollution?

Mr. Peck: My suggestion was that a study be made to ascertain just what the problem is. If you wish our cooperative help in the matter, find out what the cost may be and place the proposition squarely before us. We will be happy to cooperate in every way.

Mr. Veatch: We all want to attack the problem together. However, the facilities we have now would make it too long to carry out. We are making progress with municipalities. If progress has to wait until the Sanitary Authority studies problems for each industry, it will take a lifetime before it is done. We want you to do as much as you can, as our limited personnel will not permit us to make all these investigations without help.

Mr. Burch discussed the questions raised by Mr. Veatch.

Mr. Veatch: I think that any report should be made through the Sanitary Authority.

Mr. Green: We should not lose sight of the fact that a great deal of investigational work has already been done in connection with the sulphite liquor wastes of the Willamette valley, and that much data are at hand.

Mr. Peck: There is this to be said, generally, about the

proposition. I do not want to become argumentative or offensive, but there is always the question of the relative values of industry and fishing. That is one of the questions you have to have in back of your head all the time. Any reasonable man can see that. The state of Pennsylvania has classified streams into three divisions, A, B and C. A, pure; B, intermediate, and C, those streams given over to the purpose of carrying away sewage and industrial waste. Class "A" streams are sportsmen's streams. There is no pollution in the first two, comparatively. Industries may locate on class "B" streams, provided they meet certain regulations and requirements.

Mr. Veatch: The Willamette river can't very well be put in just one class, for the reason that there is considerable amount of industries depending upon that one stream. Speaking of the commercial fishing industry alone, and not from a sportsman's standpoint. The Willamette river and its tributaries support over 80 per cent of the spring run of Chinook salmon of the entire Columbia river basin. It can be seen, therefore, that the Willamette river is very important to the maintenance of Chinook salmon runs in the Columbia river. We have the paper and fishing industries, both of which are very valuable to the state, which are dependent upon one particular stream, and it would be pretty hard to classify the stream for the interest of one industry and the detriment of the other.

Mr. Youngman: Isn't it a fact that salmon spawn higher up in tributaries?

Mr. Veatch: Salmon do not spawn below the Oregon City falls, but they must pass through the lower stretches of the stream to reach spawning grounds. The polluted condition which exists between Portland

and Oregon City during low water has practically eliminated one run of salmon. As industries increase along the Willamette river, their wastes might so seriously pollute the river that the spring Chinook run might be destroyed, as well as the fishing industry of the Columbia.

Mr. Peck: I think the increased volume of water which will flow in the Willamette river during the summer time, after completion of the Willamette valley project, will materially help to reduce pollution.

Mr. Veatch: It will cut off a tremendous amount of spawning grounds.

Mr. Peck: I am thinking of the oxygen content of the water which is no problem in the winter time.

Mr. Wendel called upon Mr. Rau, of the St. Helens Pulp & Paper Co., to discuss problems related to his industry.

Mr. Rau: While mills in Oregon City use acid processes of pulp and paper manufacture, the St. Helens Pulp & Paper Company mill uses the sulphate process. About three or four years ago, we made quite a few tests, to determine the dissolved oxygen content of the water in the Willamette slough from our plant to the St. Johns bridge in Portland. Dissolved oxygen at the mill was higher than it was under the St. Johns bridge. As you approach Portland, the content of oxygen gradually diminishes. The present spring run of Chinook salmon is now about over. I have seen salmon landed right at the mill at St. Helens. I think one thing which would help the fishing industry a great deal would be to install fish ladders at the Oregon City falls. We have records on hand, and Mr. Green is welcome to them. I think a complete study of the oxygen content of the river should be made on a systematic basis from below Longview up to Salem. You should take tests of the water every month of the year, so that you will have a complete record of just what the oxygen is at any state of

water during any month of the year. It would really give a true picture.

Mr. Wendel asked Mr. McCornack to discuss the waste disposal problems of canners.

Mr. McCornack: (Representing Northwest Canners' Association in absence of Mr. Burns) It is true that canners are offenders in the matter of stream pollution. Bills originally introduced in the legislature were too drastic and would have placed tremendous burdens upon industries contributing to pollution. The position we took at that time seemed to us the obvious position that industries were no different than municipalities as contributors of pollution. Canners are incorporated with municipalities in pollution of streams. Probably canners might be classified in two groups--(1) those who, in one way or another, discharge their waste directly into streams independently of the municipalities--and (2) those who are using the sewerage systems of the cities wherein they are located, for the discharge of the wastes. We do not feel that we should be called upon to provide for waste treatment any faster than our own communities will go along with us. Eugene sewage goes into the Willamette river. Wastes from our plant go into the Willamette river, through the Eugene sewer system. It is hardly fair on us, as canners, to crack down on us with drastic, prohibitory legislation or orders from your commission, when we may be contributing only 25 per cent of the contamination. Eugene, with its many other minor industries, is contributing the other 75 per cent. It is almost impossible for us to move until the city proceeds with a sewage treatment project. We are willing to join with them. We would be glad to join with Junction City in the construction of a sewage disposal plant, also Eugene. Canneries located outside of cities have another problem. I think you will find them working just as hard

to meet their problems, and I think they will meet them when and if there is a general movement made which will clean the rivers, but they do not feel like being the first to step out and spend a hatful of money cleaning up their own section of the river, when the major pollution is from other sources. The canning industry is willing to go right along with this movement, in any reasonable way.

Mr. Rieling discussed the fact that in some sections of the country, canneries are treating their wastes successfully. Yakima has installed a sewage disposal plant in the last three years which is used for the treatment of cannery waste with municipal sewage. I am stating this merely to show how the cooperation of the canning industry can be expected in Oregon. There are three canneries operating rather extensive plants in Yakima. Municipalities have some responsibilities. However, the canning industry is ready to go along in any reasonable way in solving this problem.

Mr. Veatch: Your problems, where you are connected to city sewers, would be pretty well solved by a municipal treatment plant.

Mr. McCornack: Municipalities must specify how much waste they will permit in their sewerage systems.

Mr. Hallock: What is the extent of your financial contribution at Eugene? Just a tax-payer and under no additional expense, other than a resident of the city?

Mr. McCornack: Yes.

Mr. Hallock: What amount of waste from your Eugene plant is discharged into the city sewer system, and how does it compare with the rest of the sewage of the city?

Mr. McCornack: 25 per cent of the contamination.

Mr. Hallock: Your contribution toward the disposal of this waste

is only such as is disclosed by you, as a tax-payer.

Mr. Wendel: Has your industry, as a whole, made any studies of your waste disposal problem?

Mr. McCornack: Studies have been made in other states, and information is now available. Cannery associations of other states have been making exhaustive studies, so it is known, for instance, the extent to which so many tons of waste from a pea cannery will exhaust oxygen from a stream. Similar information is available for tomato and pear canning wastes. We have that information.

Mr. Veatch: Do you have a state association of cannery?

Mr. McCornack: Yes. We call it the Northwest Cannery Association.

Mr. Wendel called upon Mr. Carter, of the Portland Woolen Mills, to discuss problems related to water pollution by woolen mills.

Mr. Carter: It seems to me that, from the records we have obtained, the largest offenders are the cities themselves, not the industries. I think the textile industry will undoubtedly be glad to go along with the cleaning up of the Willamette river. I think we are all interested in cleaning streams, but I believe that it is useless to pick on industry first before the cities start, in view of the fact that it is recognized that the cities themselves are the greatest offenders. During the last six months, we hired Dr. Lazell, a chemist, to make analyses of our wastes and we had several men in our plant for five or six weeks. Dr. Lazell has all the records at his office and they are available to the Sanitary Authority. It cost us \$700. We have the largest woolen mill here on the coast. We probably dump more sewage into the river than all the rest combined. We have plants at Eugene, Stayton, Brownsville, Salem and Portland. All sewage finds its way

directly to the river. There are no sewers in the St. Johns district of Portland in which our plant is located, and we have our own sewer--about a 3 foot concrete sewer which carries all our sewage direct to the river. Wool scouring waste causes the greatest amount of pollution of all wastes from woolen mills. Our industries are represented by the Pacific Coast Wool Manufacturers' Association, Board of Trade Bldg., Portland. Our group is interesting in cleaning up the river, but we feel that the city of Portland is the biggest offender and should get busy. We feel that we are the least offenders and don't want to be picked on first. The payroll of the Portland Woolen Mill is \$800,000 a year.

Mr. Wendel: The State Sanitary Authority has obtained a commitment and the apparent cooperation of the State Board of Control for remedying unsatisfactory sewage disposal methods at state institutions.

Mr. Hallock: Do you feel industry can stand some expense in meeting this problem?

Mr. Carter: We expect to do our part. I do not know just what in particular we will do. No city sewers are now available to us, and we might have to build treatment plants. We are ready to go ahead when the time comes. Of course, it will come under your program, and we will have to submit our plans to you, but it will be up to us to build our own plant. I do not know how much it will cost, but a good many thousands of dollars.

Mr. Wendel next called upon representatives of Swift & Co., meat packers.

Mr. Hoffman: As far as we know, we are not a problem. We do not put anything into the river which we can utilize in the manufacture of our products. Sewage from our plant goes into the river. We have never had any complaints, as far as I know.

Mr. Green: We have made no investigation of the Swift & Co. packing plant, but it must be remembered that the waste from any meat packing plant causes pollution, even though most of the wastes are utilized for by-products.

Mr. Hoffman: Can't put anything into a stream, without causing some pollution.

Mr. Luther: We have some studies, Mr. Green, and you can use them any time you want to. There are a few questions I would like to ask. Have there been any tentative limits set as to what can be put into streams--that is, solids, suspended solids, etc.?

Mr. Green: We have attempted to formulate a standard, and Mr. Green can answer that question.

Mr. Green: The Sanitary Authority has adopted a classification of waters of the state insofar as the disposal of sewage is concerned, but no standards for industrial wastes have yet been established.

Mr. Hoffman: What is the scope of your authority as to the Columbia river?

Mr. Veatch: We would have jurisdiction over Columbia river on the Oregon side.

Mr. Hoffman: What progress is being made by the city of Portland?

Mr. Wendel: Progress has been slow because of financial problems.

Mr. Veatch: As I see this problem, from an industrial standpoint, it is not only a problem that the Authority and the state have to face, but a problem which industries will have to assist in solving, because each industry will have to work out the best method of meeting the particular problem that they have. I think industries

are perfectly right in feeling that public institutions and municipalities should lead the way, but when they do lead, industry is going to be face to face with the problem.

Mr. Carter: I think you will find industry is willing and ready to go along on any sane method. Other industries feel the same way as we do. I do not think industry will try to throw any "monkey wrench" into a reasonably cooperative program. Each line of industry has a little different problem. With the help of the Authority, it can be worked out.

Mr. Rau: Don't you think it would be a step in the right direction if the minimum oxygen content, maximum amount of solids, etc., were set, so there could be some knowledge of what might be ultimate limits?

Mr. Wendel: Mr. Green is working on those now.

Mr. Rau: Have you any data pertaining to stream flow and as to how long it will take for pollution to be dissipated?

Mr. Green: Many variable factors influence the self-purification of streams, and no specific answer can be given which applies in all cases. Every locality has a different problem and each must be studied if a satisfactory solution is to be obtained.

Mr. Wendel: Studies in the Tualatin river have shown that it takes about 25 miles for the stream to recover from an industrial waste load discharged at Hillsboro.

Mr. Peck: Perhaps I might make a suggestion. Representatives of the Hawley and Crown-Zellerbach paper companies might hold a conference for the discussion of a cooperative plan to be presented to the Sanitary Authority at its next meeting.

Mr. Wendel: We have been expending most effort on municipalities, because we knew it was up to public bodies to show the way and to start the program, and really astonishing progress has been made among smaller municipalities.

Hearing adjourned.