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Small Stream Pollution at East Avon, New York:
The Ineffectiveness of Regulatory Attempts

By: Thomas Rosenthal
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Water Pollution April 1971

Small Stream Pollution at East Avon, New York
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Summary:

Pollution of a stream by a laundromat in East Avon is described. A penalty, already laid by court action, was found to accomplish little toward abatement. The effluent system and its disposal is described. Biological and chemical analysis show that the stream is high in phosphates, coliform bacteria, chemical oxygen demand, and low in dissolved oxygen content. Water usage data and resident reaction is also reported. Pollution from a second source, a trailer park, is briefly noted.

Introduction:

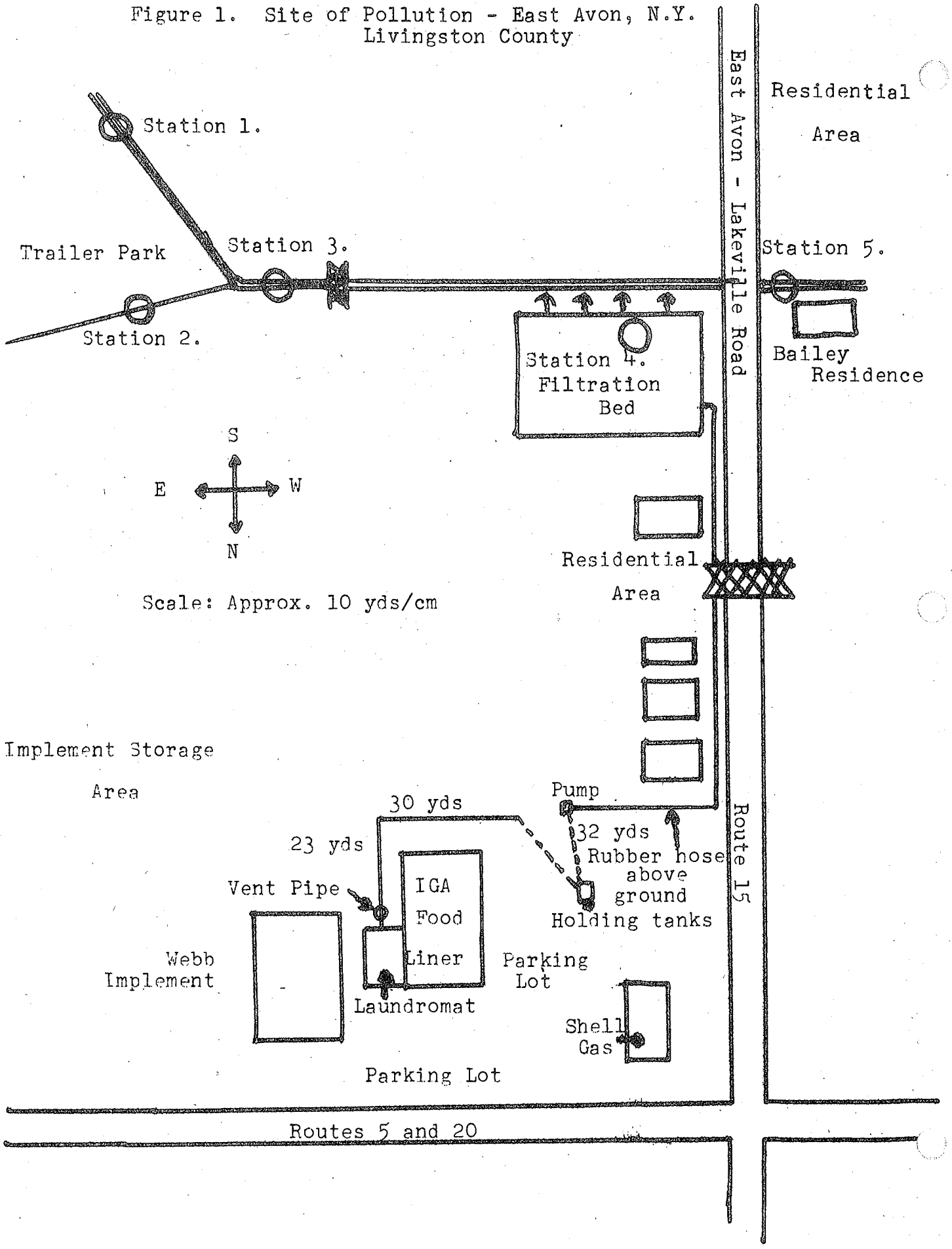
This study was initiated because of numerous complaints by residents in East Avon concerning the strong sewer-like odor of a stream that crosses Route 15 in the East Avon area. (See Figure I). A drive through the area confirmed the report of nauseating odors. Preliminary inspection of the situation revealed that black organic sludge ran down banks into the stream and the stream bed had a thick algae cover. Pools of water were observed among cattails above what was determined to be a filtration bed. Subsequently an effluent line was traced back from the stream to the laundromat in East Avon. Background investigation revealed that the laundromat had a history of litigation concerning disposal of its effluent.

Description:

The laundromat, operated by Mr. Glen Dutton, 5 West Avenue, East Avon, New York, is located in a building owned by Wemco Corporation, Hemlock, New York, part of which is also occupied by an IGA Foodliner.

[1]The author is grateful to the following people: Dr. Bruce Ristow and Dr. Howard Huddle, S.U.C. Geneseo for chemical and biological analysis (Table I); Mrs. Regina Stewart, bacterial analysis; Mr. Albert Burk, Avon Town Supervisor; Mr. Charles Webb, Webb Implement Co., East Avon; Mr. Roger Streb, Avon Town Attorney; Mr. Carl Williams, Avon Town Water Superintendent; Mr. Tom Costello, Avon Town Clerk; Mr. George Stewart, Former Justice of the Peace, Town of Avon; Mr. William Pinney, Student, S.U.C. Geneseo.

Figure 1. Site of Pollution - East Avon, N.Y.
Livingston County



The following points may be located in Figure 1. The effluent from the washing machines issues from a drain pipe into a small tank behind the laundromat. From here it runs straight south and makes a 90 degree turn. This next area is somewhat vague but it is believed that it then flows into the tank located in the parking lot. There are presumably two 3,000 gallon tanks underground, either here or near the pump. The effluent then passes through a 1.5 inch rubber hose above the ground to a concrete lined hole approximately 2.5 ft. x 2.5 ft. x 4.0 ft. At the bottom of this hole, a culvert leaves and runs south under the ditch parallel to Route U.S. 15 into a filtration bed of crushed stone 2 ft. deep. Pools of black stagnant water stand above the filtration bed. The level of the filtration bed is above the level of a stream that runs underneath Route U.S. 15. This stream eventually runs into Horsehoe Pond near the Stirling Homex Company plant on East River Road. A detailed field study of the stream may be found in R.C.S.I. Bulletin #118 (W) by Ralph Guercio (1).

History:

In a conversation with Mr. and Mrs. Victor L. Bailey, East Avon-Lakeville Road, East Avon, the investigator learned that this situation has existed as a nuisance to the people in the area for a number of years. Residents near the creek are unable to entertain in their back yards and must sleep with their windows closed due to the smell emitted from the stream. They also report huge tufts of soap suds floating along the creek at times. The Baileys have been unable to initiate any litigation because the situation is not harmful only to them. It is a traditional interpretation of law that if property owners suffer approximately equal damage, then none of the individual owners has the right to prosecute (2).

Action was taken, however, on November 12, 1969, when Mr. Dutton and Wemco Corp. were fined $125 each by George Stewart, Justice of the Peace for the Town of Avon for violation of the Town Zoning Ordinance Article 5, Section 16 and New York Public Health Law Section 1300a (3). At the time, the effluent was over-flowing the capacity of the holding tanks and spreading over land owned by Webb Equipment Co., East Avon, New York. It also spread over the parking lot by the IGA into the ditch and eventually into the stream. Mr. Dutton suggested that he would have the holding tanks pumped out in order to avoid the situation. The evidence observed indicated that he had only partially complied with the agreement.

Results:

Effluent Removed:

A phone call on November 3, 1970 with the office of Don Smith's Septic Tank Cleaning Service at 5078 Conesus Road, Livonia, New York revealed that Mr. Dutton has hired Mr. Smith to remove 1,200 gallons of effluent from the holding tanks every two weeks. Considering an average use of 3,000 gallons per day over a 14 day period, this means that 2.86% of the effluent is being removed.

Table I. Biological and Chemical Analysis of Water from seepage pool and stream at East Avon, New York. (Standard Methods.)

Station see map	Date 1970	Temp. C	pH	O_2 (ppm)	PO_4 (ppm)	Coliform/100 ml	COD($g.O_2/l.$)
5	7/12	23	6.5	5	7	100,000	6.5×10^{-2}
1	7/22	20	6.9	6	0.6	0-0	2.2×10^{-2}
2	7/22	--	---	---	6.0	230,000	8.8×10^{-2}
3	7/22	18	6.6	3.5	3.3	20,000	4.0×10^{-2}
4	7/22	21	6.6	.7	7	850,000	106.0×10^{-2}
5	7/22	19	6.5	2.4	7	200,000	4.6×10^{-2}
5	9/29	--	---	---	--	390,000	---

Chemical analysis by R. Ristow and H. Huddle. Bacteriological analysis by R. Stewart.

Note: The algae Cladophora was found growing in a common ratio on the rocks sampled from the base of the stream at station 5.

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Table 2. Water usage by Laundromat.

Oct. 1 to Dec. 31, 1971	244,700 gal.
Jan. 1 to April 30, 1970	212,100 gal.
May 1 to July 31, 1970	288,200 gal.
Aug. 1 to Oct. 31, 1970	279,600 gal.
Average usage per day	3,000 gal.

Data courtesy of Mr. Carl Williams, Town of Avon Water Superintendent

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Dye Trace:

A dye trace was conducted on November 3, 1970 when it was discovered that the pump was running and that several washing machines were operating. The dye used was Rhodamine B. The dye appeared in the stream 2.5 hours after entering the vent pipe (see map) behind the laundromat.

Discussion:

The stream in question is labeled Ontario 117-31-p. 61 as a class D stream by the State (5). As a class D stream it is designated for industrial and agricultural use but certain quality standards must be met or else users are considered to be pollutors.

Table 1 presents the biological and chemical analysis of the stream. At all measurements, the pH fell within the range specified by the New York State Department of Environmental Conservation (6.0-9.5). Dissolved oxygen content falls below that allowed a class D stream at station 5 which is shortly after entrance of the laundromat effluent. The allowable limit after proper mixing is 3.0 ppm O_2. At station 5 it has fallen to 2.4 ppm. Even worse is the measurement taken in the black high organic content water at station 4. This water is seepage of the effluent that has entered the filtration bed. It eventually runs off into the stream.

Phosphates are a regular component of detergents and would be expected to be present in large quantities. These expectations are born out as the data suggests. Sample 2 indicates that the trailer park may add to the pollution of the small stream that enters the main stream before the filtration bed. By station 5 the phosphate level has risen to ten times the content at station 1 where the stream is considered natural. A high concentration of PO_4 stimulates an algae bloom and a resulting foul odor as reported by the residents. The stream bed is blanketed with algae.

The coliform count also indicates the users of the stream exceed the allowable limits of a class D stream, (2,400/100 ml.). Here again it can be seen that the trailer park violates the limit and at station 5 the level of coliform is well above allowable limits. More than 10,000 coliform/100 ml. is considered hazardous to health.

The chemical oxygen demand (COD) again indicates organic pollution by both the trailer park and the laundromat.

The analyses show that the stream is being misused and does represent a health hazard and aesthetic degradation of the area. Black organic sludge can be seen where the runoff from the filtration bed enters the stream and at times the odor is nauseating.

Literature Cited:

(1) Guercio, R.

(2) Sax, J. L. 1970. "Environment in the Courtroom". Saturday Review. Oct. 3. pp.55-57.

(3) The People of New York vs. Glen Dutton and Wemco Corp. Court records of the Town of Avon, November 12, 1969.

(4) New York State Department of Environmental Conservation, 1967. Classification and standards governing the quality and purity of waters of New York State. Parts 700-703, title 6, Official compilation of codes, rules and regulations. pp. 511-526.

(5) Upper Genesee River Drainage Basin. Recommended Classifications....Genesee River Drainage Basin Survey Series Report No. 2. Water Pollution Control Board, N.Y.S. Dept. of Health. 1961.

End Note: Future Action:

It is hoped that this situation will be discontinued but the action must initiate with the local residents of East Avon. Mr. Roger Streb, Avon Town Attorney, has shown concern for the situation and has offered possible legal solutions. His most complete solution is to obtain a court injunction against Mr. Dutton from the New York Supreme Court. Mr. Eric Seiffer, the Rochester Regional Office Director of the New York State Department of Environmental Conservation, Avon, New York 14414, phone: 715/325-5900, is the state official who has jurisdiction in this environmental area. His office is equipped with both technical and legal resources.