Stream Pollution Abatment Legislation

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Legislation of any kind is usually brought on by a need as dictated by public opinion. The impetus behind present day stream pollution abatement legislation was the need for the conservation of our water resources. The whole supply of water is nearly constant from year to year, and, with ever increasing needs for water to serve population growths and industrial expansion, it is obvious that stream water must be kept at that quality necessary to satisfactorily serve downstream users. On the other hand, we are faced with the fact that streams are normally the only place in which, liquid wastes can be discharged, whether they are of an industrial or municipal source.

It is nearly a foregone conclusion that there will be additional legislation enacted from time to time to prevent further degradation of our streams and to improve present stream conditions. It is unfortunate that this is the case, but we must realize that the person or persons who are polluting a stream do not usually suffer any damage to themselves from this action. It is the downstream users or inhabitants who suffer the consequences and they are the ones who bring the pressure on our legislators to enact laws to prevent impairment of stream quality.

The present status of the legislation relating to this subject will hereinafter be discussed under the two governments most active in this field, namely, Federal and State.

In the field of Federal government, the first comprehensive law enacted was the Federal Water Pollution Control Act (Public Law 845), which was passed by the 80th Congress in 1948. This Act was extended last year and is to remain in effect until June, 1956. It states that, "It is hereby declared to be the policy of Congress to recognize, preserve and protect the primary responsibilities and rights of the States in controlling water pollution, to support and aid technical research to devise and perfect methods of treatment of industrial wastes which are not susceptible to known effective methods of treatment, and to provide Federal technical services to State and interstate agencies and to municipalities, in the formulation and execution of their stream pollution abatement programs."

The Act provides that the Surgeon General shall:

1. Prepare or adopt comprehensive programs for the solution of water pollution problems in cooperation with the States, interstate agencies, municipalities and industries.
2. In developing the above programs, consideration should be given to all water uses, such as public water supply, propagation of fish and aquatic life, recreational purposes and industrial, agricultural and other legitimate uses.
3. Provide Federal research and technical assistance for any other agencies or persons.

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4. Encourage uniform State laws and interstate compacts.

5. Encourage cooperative State activities in the field of water pollution control.

6. Collect and disseminate information on water pollution.

7. Authorize Federal grants to State and interstate agencies to help them with their industrial waste studies.

8. Authorize loans to municipalities for construction of abatement works. (No funds were appropriated for this purpose.)

9. The Act also provided for Federal enforcement in connection with pollution involving interstate waters, where State control was considered ineffective.

Mr. Carl E. Schwab, Chief, Division of Water Pollution Control, Department of Health, Education and Welfare, Public Health Service, reported on the accomplishments and policies of that department at the January, 1954, meeting of the National Technical Task Committee on Industrial Wastes. The following is a summary of his remarks:

"Pollution data available from State and Federal sources on the country's 226 separate river basins have been assembled, analyzed and published in 15 drainage basin reports. Efforts are now being concentrated on the 146 interstate basins in order to get complete technical data so that a comprehensive plan can be developed for each of these areas.

"The availability of the facts regarding pollution conditions in most areas of the country, with a listing of the cities and industries responsible, has aided in bringing on increased public awareness of the problem. Organized local groups, such as business and civic clubs, women's clubs, health councils, conservation groups, sportsmen's organizations and the like, have become interested and are working with City and State officials to obtain public support for abatement projects needed in their own communities.

"There has been encouraging progress in the enactment of uniform State water pollution laws. The principles of a 'Suggested State Water Pollution Control Act,' as developed by the Public Health Service, have been used in new or amended legislation in eleven States.

"More progress is being made through interstate compact organizations in the development of uniform policies for pollution control on a regional basis.

"Pollution control is now being considered in resource development projects in the planning stages."

Regarding policies of the Federal water pollution program, Mr. Schwab stated that these policies present the purpose and direction of the national pollution abatement effort. Some are clearly defined in the Act, some are implied, others developed as required. Briefly outlined, these policies are: "With respect to State responsibility, it is our policy to recognize, preserve and protect the primary responsibilities and rights of the States in controlling water pollution.

"With respect to Federal-State relations, it is our policy that such cities and industries creating pollution are responsible for its abatement. This policy stems largely from the law enunciated in legal de-

cisions involving the right of riparian owners to be protected against pollution. In areas governed by the 'common law doctrine' each riparian owner has the right to have the stream which flows past his property unimpaired in quality and undiminished in quantity. In States where the 'reasonable use doctrine' is in force, the reasonable use of a stream by a riparian owner may not be interfered with, and in western areas governed by the 'prior appropriation doctrine' the policy recognizes the accepted rule that the acquisition of water by prior appropriation for a beneficial use is entitled to protection.

"With respect to Federal-State relations, it is our policy that such relations shall be conducted on a cooperative, partnership basis, involving mutual respect and trust and full recognition of the respective individual rights of the partners, as well as their common responsibilities.

"With respect to Federal-Industry cooperation, our policy is to recognize industry as a key member of the team engaged in solving the national pollution problem, and to utilize industry's resources to the maximum extent in planning and execution of the pollution abatement program carried out under this Act.

"With respect to Interstate cooperation, it is our policy to encourage the fullest possible measure of cooperation among the States in their activities for the abatement of water pollution. There are now ten interstate compacts, with others in varying stages of negotiation or ratification. Informal regional advisory councils are also being encouraged.

"With respect to comprehensive program development, it is our policy that such programs must be prepared in cooperation with other Federal agencies, with State and Interstate water pollution control agencies and with the municipalities and industries involved. They shall be directed to eliminating or reducing pollution of interstate waters and tributaries thereof and improving the sanitary condition of surface and underground waters.

"A comprehensive plan for pollution control provides a means of focusing public attention on a certain stream or section thereof. It is the best means we have for giving citizen leaders, industries and others a basis for supporting needed remedial measures. It identifies the problem and suggests concrete and specific goals. The comprehensive plan has great value as a fundamental educational document. It shows what the people in the area will gain if the program is carried out. It tells where they are, in terms of water resource loss, if the program is not completed. It gives an estimate of the costs involved and states the project requirements in order to attain the quality objectives.

"These plans or programs, if they meet the requirements of the comprehensive program, are adopted by the Public Health Service as the official program, even if prepared by other agencies.

"With respect to Federal enforcement, our policy is to define, on the basis of investigations, surveys and studies, the areas in which interstate pollution is probably occurring; to leave the initial responsibility for enforcement with the States; and to exercise the full powers of Federal enforcement only after the efforts of the States have been exhausted, and then only with the consent of the State.

"With respect to reporting, our policy is to make available the facts on the national pollution problem, to report progress, and to provide related information, with the major objective of aiding the States, by demonstration and cooperation, in establishing means through which they may maintain effective reporting programs at the State level, where primary responsibility for the control of pollution rests.

"With respect to water pollution research, our policy is: 1. undertake research which will have the greatest immediate and practical effect on the prevention or abatement of pollution and which will primarily seek solutions to the most urgent problems existing at the time of consideration of projects, consistent with available resources;
2. maintain a satisfactory balance between short and long term projects, and between basic and applied research; 3. give preference to projects having the widest applicability; 4. not undertake research looking to the solution of problems of any individual industrial establishment; and 5. give support and aid to pertinent research conducted by other public and private bodies.

"The Act authorized grants of one million dollars annually to State and Interstate water pollution control agencies for the conduct of investigations, research, surveys and studies related to the prevention and control of water pollution caused by industrial wastes. Congress did not appropriate this money for this fiscal year.

"With respect to river basin development programs, our policy holds that water pollution control is a part of that program, and that water pollution aspects be considered from the initial planning stages of projects proposed under such programs.

"This work is being accomplished by cooperation and representation with other Federal agencies. This policy is being used in the development work underway in the Columbia, Missouri and Arkansas-White-Red River Basins and the New England-New York and Pacific Southwest areas."

In conclusion. Mr. Schwab stated that excellent progress had been made in many areas. However, some State agencies lack sufficient funds and personnel to allow full interstate cooperation. There are gaps *in* some of the basic data required, not only for delineating the problem, but for measuring progress toward achieving a solution. This is particularly true in measuring progress made by industry. Progress in abating municipal pollution is not satisfactory in terms of the vast amount of work required.

As members of industry, and more particularly as representatives of the beet sugar industry, we must now face up to facts that have been the outcome of the work of the U. S. Public Health Service under P.L. 845:

1. The amount of pollution caused by our industry is now well known and publicized and is pin-pointed as to location. 2. It is our responsibility to abate pollution to whatever extent possible.
3. Through the formation of Interstate compacts and the emphasis on uniform State laws, we will all be affected to about the same de gree. 4. Although the public is well informed on the amount of pollution we are causing, it is not informed on the difficulty or cost to us to abate this pollution. We must therefore develop better public relations.

In connection with industry attitudes, two of our largest chemical companies have made public statements. The DuPont Company has stated: "Company policy dictates that no new pollution be created and that existing pollution continue to be abated as methods and equipment become available, until it reaches a point near zero." Union Carbide stated: "Carbide's management early adopted a policy of not permitting the construction of any new chemical manufacturing until the wastes could be properly handled without abusing the river. The company has adhered strictly to this policy."

At the present time we do not know what to expect in the way of Federal legislation when the present law expires in June, 1956. However, it could well be extended another four years, as was the case in 1952. Bills have been presented to Congress during the past few years requesting that capital investments made in connection with waste water treatment installations be given 5-year amortizations for tax purposes. Although these bills have not been enacted, industry in general is in agreement that some relief for these expenditures is necessary because they yield no financial returns and add a burden of operating costs.

As regards State legislation, there is a very wide difference in the kinds and types now in effect. The tabulation below gives the status of State legislation which uses a water quality criterion based on intended water uses, such as water supply, fish and aquatic life, etc. The following 20 States have water quality criteria established by law, rule or regulation:

1. Connecticut
2. Indiana
3. Kansas
4. Maryland
5. Maine
6. Massachusetts
7. Mississippi
8. New Hampshire
9. New Jersey
10. New York
11. No. Dakota
12. Ohio
13. Oregon
14. Pennsylvania
15. Rhode Island
16. So. Carolina
17. Tennessee
18. Washington
19. West Virginia
20. Wisconsin

The following 8 Stales have criteria being developed or considered:

1. Alabama
2. Arkansas
3. California
4. Florida
5. Michigan
6. Missouri
7. Oklahoma
8. So. Dakota

The following 9 States have been provided authority by their legislatures to adopt criteria, none yet developed:

1. Delaware
2. Illinois
3. Kentucky
4. Louisiana
5. Minnesota
6. Nevada
7. No. Carolina
8. Vermont
9. Virginia

The following 11 States have no provision for adoption of criteria by legislation:

1. Arizona
2. Colorado
3. Georgia
4. Idaho
5. Iowa
6. Montana
7. Nebraska
8. New Mexico
9. Texas
10. Utah
11. Wyoming

In addition, 4 interstate agencies or commissions have adopted criteria, and 3 have tentative criteria. To many of us the Missouri Drainage Basin

tentative guide for water pollution control activities should be of interest. The member States are: Missouri, Montana, Nebraska, Iowa, Kansas, Colorado, North Dakota, South Dakota, Minnesota and Wyoming.

In reviewing the present status of Federal and State legislation and the policies and activities being carried on in these categories, we can nearly predict what the future will bring in the way of waste water pollution abatement control.

1. In general, States will amend present laws or adopt new ones which will gradually bring about a basic uniform standard of water quality objective.

2. Enforcement of pollution abatement will be a State function, but Federal enforcement can be applied under the terms "interstate waters and their tributaries."

3. The present policy of Federal, State and interstate agencies in developing comprehensive plans for improved water quality in all areas will result in some sort of classification of waters as to legitimate uses. A list of uses such as:

1. Domestic water supply.
2. Shellfish culture.
3. Bathing and swimming.
4. Fish propagation.
5. Boating and fishing.
6. Transportation of wastes and navigation.
7. Fowl refuge and propagation.
8. Industrial water supply.
9. Irrigation and agriculture.
10. Aesthetic enjoyment.

4. The development of overall plans and classification of waters will be handled by a new State agency either wholly composed of representatives of various State agencies or composed in part of representatives of outside interests, such as industry, agriculture, municipalities, etc.

5. In some areas control will be applied to plant waste effluents and in other cases stream quality will be the criteria. The various factors of water quality which could come under control are:

1. B.O.D.
2. Chemical analysis.
3. Dissolved oxygen.
4. Coliforms.
5. Certain types of industrial wastes.
6. Floating solids, oil and grease.
7. pH.
8. Phenol.
9. Sludge.
10. Suspended solids and turbidity.
11. Taste and odor.
12. Temperature and color.

6. Some sort of financing will be provided for municipalities to use in building treatment plants.

7. Industry will be held responsible for solving its own pollution problems.

The papers which have previously been presented on this program give ample evidence that the beet sugar industry has made many gains in the field of water pollution abatement. However, much remains to be done before we can state that we have the means to accomplish the ultimate necessary degree of effluent quality that may be needed. The problem is to develop treatment systems which can be built and operated at a cost we can afford.

When you consider the amount of legislation and publicity that has developed in connection with water quality since 1948, it is evident that we cannot postpone our efforts to solve this problem much longer. We cannot defend ourselves against the accusation that we have polluted the streams.

When the time comes when the stream, into which one of our factories discharges its wastes, is made the subject of classification as to its legitimate use, we must, if possible, point out to the agency a number of pertinent factors. First, if a classification or criteria is set at standards we cannot hope to meet, that classification should be set instead on the basis of our industry's economic worth to the area as compared to the worth of, for instance, fishing. Second, before effluent control is imposed, a stream recovery study should be made to actually determine the effects of our wastes as compared to other wastes which may have been discharged into the same stream. This study should also determine what distance downstream our wastes are affecting water quality. Third, the public should be informed regarding the health features involved in municipal wastes as compared to ours. There is a growing tendency to evaluate industrial wastes on the basis of population equivalent, which often leads to erroneous public opinion. And, last, we should point out that we are doing something about the pollution problem and this must be done in deeds as well as words.

In order to accomplish the whole stream water quality improvement program a great many people other than industry will have to take corrective measures. Silt is one of the major pollutants of our streams and the reduction of this can only be accomplished by very exact soil conservation practices by farmers and ranchers, and these practices must be followed on the Government land areas containing forests. Tn other words, any person who discharges wastes of any kind, either liquid or solid, into a stream or any place where they can ultimately be washed into a stream, will have to be made responsible for abating these practices. At present, municipalities and industry appear to be the major offenders, but on analysis many individuals thoughtlessly add to the stream pollution problem.