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CLEAN STREAMS

FOR THE OHIO VALLEY

OHIO RIVER VALLEY WATER SANITATION COMMISSION

An interstate agency representing Illinois, Indiana, Kentucky, New York, Ohio,
Pennsylvania, Virginia and West Virginia

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CLEAN STREAMS

FOR THE

OHIO RIVER VALLEY

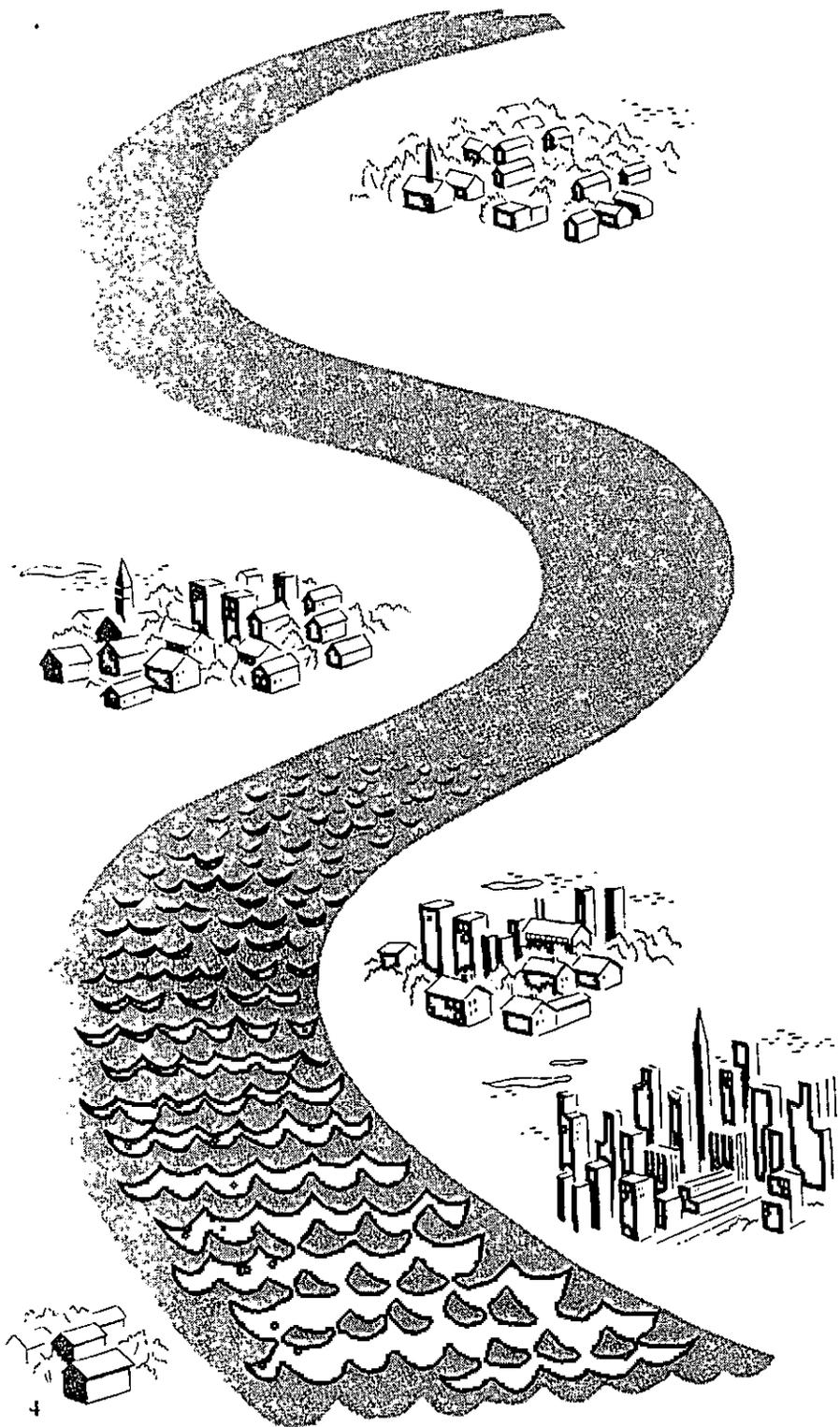
The Ohio River Valley Water Sanitation Commission is the administrative arm of a compact among eight states to solve a mutual problem, a problem that recognizes no state boundaries -- water pollution.

An eight-state attack is underway in the Ohio River Valley for the abatement of stream pollution -- and with it the restoration of degraded water resources. The outcome of this campaign is of vital concern to millions of people and thousands of industries: Nowhere has community growth and industrial expansion brought a greater foulness to streams than in the Ohio Valley. And nowhere does a greater population and the industrial productivity of a region depend more on the use and re-use of the water flowing in these streams.

The Ohio River has been called a "981-mile sewer." The Commission's task is to marshal all forces -- municipal and industrial -- to clean up this disgraceful "sewer" . And the aim of this anti-pollution campaign is to make this great river fit once again for swimming, boating and other sports, to improve the quality of its water so that industry will be attracted into the valley, and to provide clean water -- as a source of municipal supplies -- that can be consumed without prejudice to the health of the valley's populace.

To accomplish its purpose, the Commission is calling for the support of the citizens of every community involved. Legislation alone cannot do the job.

Believing that every citizen, once acquainted with the facts of the problem, will take an active part in securing clean streams for his area, the Commission is sponsoring an educational program. To make this effective, your help is asked in promoting "Clean Streams for the Ohio River Valley."



Foreword

Waterways . . . Lifeline of our valley

Almost two-thirds of our communities depend on surface waters for their domestic uses. We need water -- to drink, for cattle, and for fish and game.

Our industries need water -- in scores of manufacturing processes, as a source of power, as roadways for continental commerce.

Communities need water for recreation -- swimming, boating, camping, fishing and hunting.

Water is also essential to the disposal of human and industrial wastes, but these wastes must be treated adequately before they are discharged into our lakes and rivers.

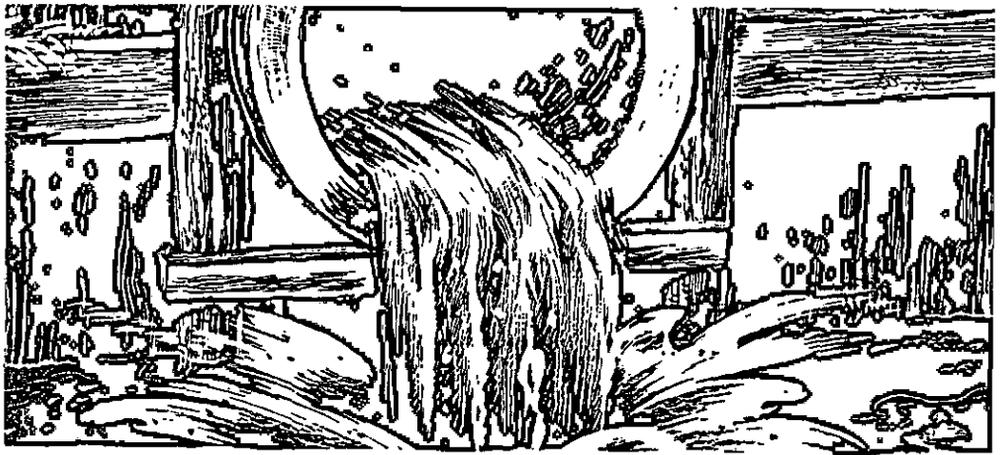
The menace of pollution

A billion gallons of untreated sewage and industrial wastes laden with disease germs pour into our waterways every day. This pollution endangers our valley's health, degrades water for industrial processing and deprives us of full benefits of rivers, lakes and streams.

During the last few decades, increasing pollution of our streams has become a serious valley-wide problem. Expanding industrial activity and growing population served by sewage systems overtax present purifying facilities.

Money losses alone are estimated at many million dollars a year. Damage to our health and recreational values cannot be shown in monetary values alone.

Treatment of sewage and industrial wastes before they are dumped into waterways can reduce these losses.

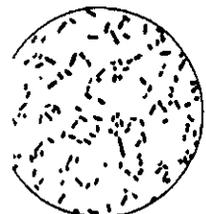


Water Pollution

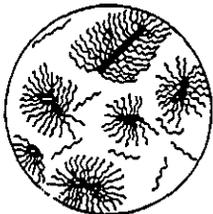
Threatens our health

Rivers and streams laden with untreated sewage and wastes carry disease bacteria and impart obnoxious tastes and odors to our drinking supplies. Millions of our people draw their drinking water from these polluted sources which may carry germs of typhoid and dysentery. Because modern science has built a protective wall by water purification processes, waterborne epidemics no longer ravage our communities as frequently as in the past. But this wall must be kept under constant vigilance if we are to be sure it meets the ever present and increasing burden of pollution.

Still, outbreaks of waterborne diseases occur because of the use of untreated water supplies or a breakdown in water systems. In 1940, in Rochester, New York, an outbreak of gastro-enteritis affecting an estimated 35,000 people, was caused when a laborer unintentionally opened a valve connecting the Rochester water-supply system with untreated,



Dysentery



Typhoid



Cholera



Infantile Paralysis



polluted Genesee River water. More than 5 million gallons were pumped into the mains over a 16-hour period before this error was corrected.

Reduces our food supply

Irrigation by polluted waters may leave sewage solids on lettuce and other produce. This is a disease hazard to the consumer and an economic threat to farming in irrigated areas. Truck farming served by polluted irrigation waters might easily repeat the sad experience of the shellfish industry before industry-wide sanitary control, when an outbreak of disease in Chicago and other cities traced to shellfish resulted in a consumers strike that brought the shellfish industry to a complete standstill.

Weakens our transportation

Untreated sewage and industrial wastes damage paint and corrode metal on river craft, wharfs, canal locks, dams, and bridges. When it interferes with navigation, pollution menaces a community's industrial welfare. Location of industries often depends on convenient water transportation, a major factor in our internal trade and commerce.

Curtails public recreation

It is unsafe to swim in water contaminated by sewage. Public officials condemn polluted bathing areas; boating and picnicking become disagreeable, even dangerous. Waterfowl and game fish vanish from unclean streams and lakes.

John Audubon in 1820 referred to the Ohio River as a fisherman's paradise, and commenting on the catfish said, "Of the blue kind some have been caught that weighed a hundred pounds."

Today, because of the low oxygen content of the polluted waters, game fish such as the northern pike and black bass have disappeared almost completely, leaving only the tough scavengers such as the carp. Also because of pollution, commercial fishing is now practically non-existent. Waterfowl, driven away by lack of feeding areas, provide little hunting for the sportsman.

Hunting and fishing are economic as well as recreational assets. The Senate Wildlife Committee has reported that the nation's hunters and fisherman have spent as much as \$650,000,000 annually on these two sports.

Thus swimming, safe boating, hunting, fishing and picnicking -- recreational assets which every citizen has a right to enjoy -- are denied to communities along the Ohio River because of the intolerable pollution.

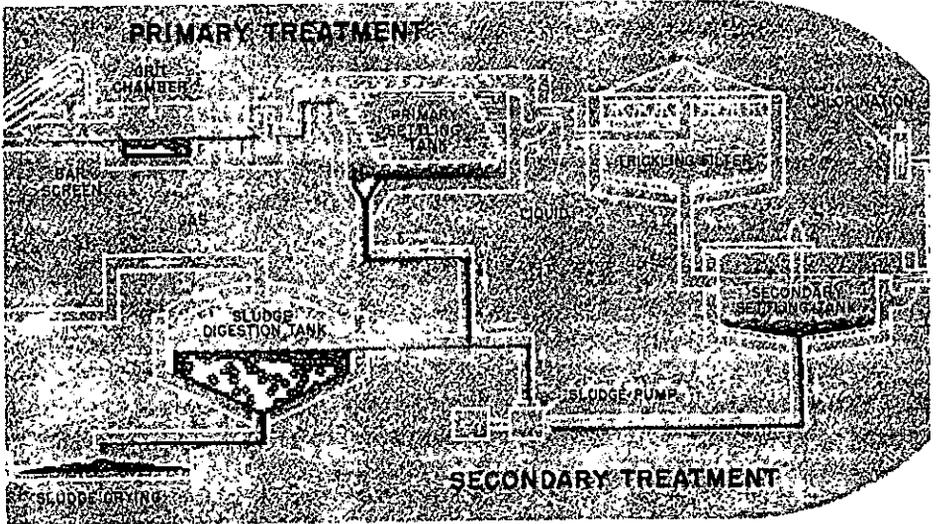
Adequate sewage treatment of all wastes that pour into this drainage area can once again make the valley a sportsman's paradise and make the waters safe for public recreation.

Undermines property values

Property and structures adjacent to lakes or streams are affected -- often seriously -- by the presence of untreated sewage and industrial waste in the water. Unpleasant odors, corrosive wastes that attack paint and metal structures, unsightly scum collected on the banks of the stream -- all these injure waterfront property and land values.



The Solution Sewage Treatment



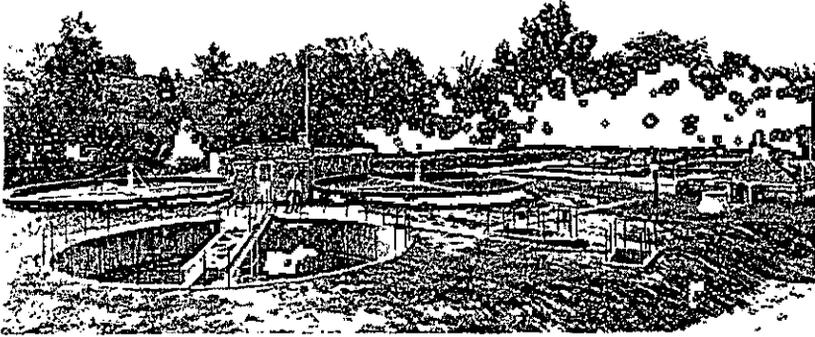
We have the know-how

Water pollution can be checked. We have many techniques for the abatement of pollution from domestic sewage. We know how to overcome the harmful effects of many industrial wastes. For example, our knowledge put into practice has reduced sharply the incidence of typhoid fever. The nationwide death rate from this disease has dropped from 35.8 per 100,000 in 1900 to 0.2 in 1948. But to maintain our gains against this and other waterborne diseases we must extend and improve our sewage and industrial waste treatment facilities.

Modern sewage treatment combats the menace of pollution. Suitable facilities vary for communities of different sizes and local conditions. But basic procedures are similar.

Problems of water pollution undergo intensive study at the U. S. Public Health Service's experiment station at Cincinnati. In federal, state and local government as well

as industry research workers are constantly seeking to develop new ways to treat sewage and industrial wastes; they devise and test treatment methods to increase efficiency.



Small communities can be served by treatment facilities, such as this biofiltration plant at Elizabethtown, Ky.

Cost of construction

Sewage-treatment works do not cost as much per person as most uninformed people believe. The cost varies with the degree of treatment needed. The table below shows how unit cost increases with a higher degree of treatment.

| Population | Type of Treatment | | |
|------------|-------------------------|------------------------------|--------------------------|
| | Primary (per person) | Intermediate (per person) | Complete (per person) |
| 10,000 | \$14 | \$26 | \$36 |
| 25,000 | \$12 | \$22 | \$30 |
| 50,000 | \$10 | \$19 | \$26 |
| 100,000 | \$ 9 | \$16 | \$22 |
| 200,000 | \$ 8 | \$14 | \$19 |

Treatment effectiveness is measured by biochemical-oxygen-demand (BOD) and suspended-solids removal (SS). Primary treatment generally removes about 35% BOD and SS, intermediate treatment about 65% and complete treatment about 90% of these units.

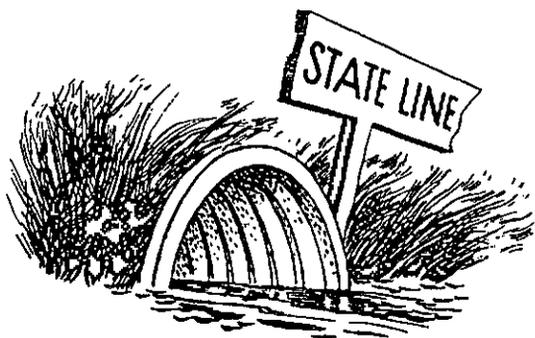
Everybody's Concern

Stream pollution is everyone's concern. It affects most of us in more than one way -- as citizen, manufacturer, parent, consumer, vacationist. Somehow, somewhere, each of us pays a price for the pollution of our waterways.

Since stream pollution is everybody's business, it is everybody's job to work toward its abatement. Organized action can help each community, each state, each region to achieve this goal.

There is a growing awareness of the need of such cooperation. In addition to the Ohio River Valley Water Sanitation Commission, various state health and conservation groups, stream-pollution commissions, the U. S. Public Health Service and other groups are working together in many areas. For example, states signatory to the Compact are well-armed with pollution-control commissions: Illinois -- State Water Board; Indiana -- Stream Pollution Control Board; Kentucky -- Water Pollution Control Commission; New York -- Water Pollution Control Board; Ohio -- Pollution Control Board; Pennsylvania -- Sanitary Water Board; Virginia -- State Water Control Board; and West Virginia -- State Water Commission.

These agencies are serving as the first lines of contact in the battle of pollution control. Their efforts meet on a common ground through the Ohio River Valley Water Sanitation Commission.



Industry-Action Committees are the instruments through which similar industries have banded together under the Commission to prevent, control and reduce water contamination by processing wastes. These committees are working closely with the Commission; their efforts are resulting in pollution-abatement progress.

The Industry-Action Committees now functioning cover the metal-finishing, steel, distillery, brine-processing and coal-producing industries. Other committees will be organized for other like groups of manufacturing concerns.

Local and state authorities bear much of the responsibility for abating stream pollution, but the problem in the Ohio River Valley requires a regional approach. The great river system extends beyond the boundaries of a single state. Untreated sewage flowing into a stream in a neighboring state may cause an epidemic of typhoid fever in your community. Wastes polluting the bathing beach far from your home may have come from the sewers of your own town or from sewers outside your state. Pollution recognizes no boundaries of city or state.

LEARN THE FACTS

Consult with your local sanitary engineers and health officials. Learn about waterborne diseases and what potential health hazards exist in the area because of pollution. Learn what additional sewage-treatment facilities are necessary, how much they will cost, how they will be financed, and what stage of planning or construction they are in.

Determine what action is necessary on the part of the citizens of the community. In many cases, municipal officials need only evidence of the public's faith in the project to justify them in engaging consulting engineers and proceeding with the necessary planning and construction. In other cases a bond issue will be required, calling for an actual vote by the citizens of the community.

In any case, municipal officials cannot proceed without some evidence of the public's desire. The main task is to promote the nebulous desires for cleaner waters -- that will provide better recreation and health safeguards -- into a measureable demand for positive action.

The greatest stumbling block is procrastination. Whereas many are in favor of a sewage-treatment project, there always seems to be a reason why such a project cannot be undertaken immediately. Manpower shortages, depressions, national emergencies, material shortages all seem valid reasons for postponing action. But nothing is more important than the health of your community.



SPREAD THE WORD

Build concrete evidence of the public's demand for immediate action and municipal officials will be quick to act. The first step in building this demand is to publicize the worth of the project.

Newspaper coverage

Progressive editors generally are ready to aid in civic endeavors. They will print effective editorials, feature articles, and picture stories of nearby pollution conditions, and of local sewage and industrial waste treatment, its importance, merits and deficiencies.

Radio publicity

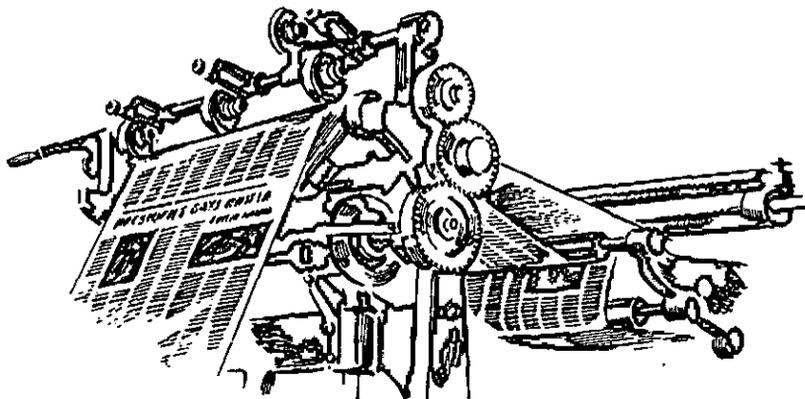
Treatment of sewage and industrial waste in your community may be the topic of a local round-table discussion, or

forum of the air. Spot announcements may dramatize the need for examination of treatment facilities. Radio stations are required to devote a certain number of hours to public service programs; program directors will understand that the problem of clean water is immediate and urgent to the community.

Enlist other groups

Arrange for speakers to address civic, church, labor, fraternal and educational groups. A parent-teacher association will appreciate the importance of clean water to the health of the community's children. Manufacturers and business men will be impressed not only by their share of responsibility for water pollution, but also by the subsequent financial gain to the community and by the assets of a clean stream from an industrial standpoint.

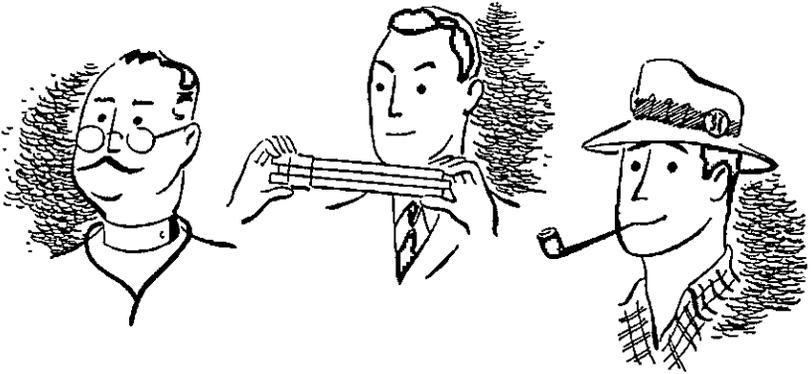
The help of other civic organizations is essential. With their sense of pride in the community, they will respond to the need for abatement of pollution -- easily expressed through resolutions, either for plans, a bond issue, legislation or whatever is needed. The new full-color sound film, "Clean Waters," produced by the General Electric Company and carrying the seal of the U. S. Public Health Service, presents a vivid, forceful picture of the problem. It will augment the speaker's remarks authoritatively and effectively.



ORGANIZE

Once people know the facts they are ready to act. Effective action demands organization. Make sure that there is some positive action that those in favor of the program can take, such as signing scrolls, or passing a resolution. In the event that the program is designed to gain support for an actual bond-issue vote, that in itself of course, is the positive action desired. Organize the approach with such a specific objective in mind.

Make sure you have working with you, if not actually on your committee at least lending verbal support, leading health, sports and engineering authorities.

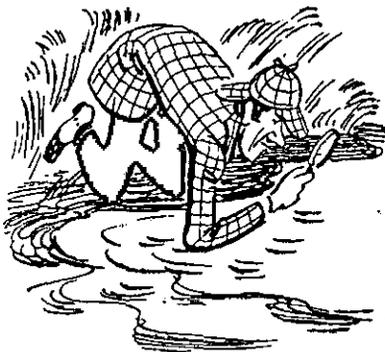


Once organized you can get results

Here, briefly, are two case histories which prove that organized public-education campaigns can and do succeed in cleaning up pollution. Although such a campaign might not be needed in your community for many months, you may find some good ideas for use later:

Spokane, Washington

Where an alert program of education persuaded voters to turn out in record numbers and accept a sewage treatment project they had rejected four times before. A Citizens' Committee for the Sewage Disposal Project, organized to put the merits of a proposed treatment plant before the voters, completely "sold" Spokane on the project. With the help of



various interested firms and individuals, the Committee prepared a question-and-answer pamphlet explaining the nature, extent, cost and benefits of the project which was mailed to every city resident. Speakers took the "Clean Waters" movie before scores of civic groups, and a standard resolution favoring the clean-up of the Spokane River and endorsing the sewage bond issue was submitted and passed by every available group. Considerable newspaper publicity appeared throughout the several weeks of the campaign. Milk companies cooperated in the climax: on the morning of the bond election, oblong cards on the necks of milk bottles urged housewives to go to the polls and vote for the \$1,700,000 bond issue. The bonds were passed -- 35,000 to 1,000 -- a new record in Spokane election books. Thanks to the Citizens' Committee, Spokane will enjoy all the benefits of clean waters.

Modesto, California

This city learned it must either treat its sewage and wastes before pouring them into the Twolumne River, or face a state lawsuit and see its two major industries shut down. Even with these powerful stimuli, Modesto's Chamber of Commerce felt a public education campaign was needed in behalf of sewage treatment since only one bond issue had successfully passed since 1923. Postcards showing sewage entering the river, illustrated letters to residents, car-bumper strips and street banners at busy intersections were used to tell the story. "Clean Waters" was shown to over 2,000 persons. On election day, voters were contacted by telephone chains, urged to vote, and offered free transportation to the polls -- provided by local taxi companies. Modesto's citizens responded, approving funds for better sewage treatment, 11 to 1.

LEARN THE FACTS,

SPREAD THE WORD,

ORGANIZE.

The illustrations and a major portion of the material in this pamphlet were made available by the General Electric Co. and were previously used by them in another publication.

FOR MORE INFORMATION . . .

You are invited to address the Ohio River Valley Water Sanitation Commission, 414 Walnut Street, Cincinnati. On specific matters relating to the situation in your state direct inquiries to the following:

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