# AIR QUALITY IN REGION SUBJECT OF SEWRPC STUDY

How serious is air pollution in the Region today? What effect will future development have on air quality in southeastern Wisconsin? How can federal clean air standards be maintained in the Region once they are met?

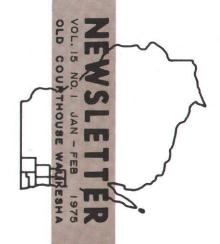
These are some of the questions to be answered as part of an air quality maintenance planning program being conducted by the SEWRPC in cooperation with the Wisconsin Departments of Natural Resources (DNR) and Transportation (DOT) and the University of Wisconsin-Madison. The result of the study will be a strategy for maintaining air quality in the Region through 1985.

The Commission recently published a Prospectus outlining the scope, estimated cost, and timetable for the study, which was prepared with the assistance of a specially appointed technical advisory committee. The committee includes federal, state, and local public officials and university personnel with expertise in the areas of meteorology and air quality maintenance, as well as citizens concerned about air pollution and air pollution control in the Region. The committee members are listed on page

The two-year study is expected to be completed by early 1976, and is estimated to cost \$192,300, with 60 percent to be funded by the U. S. Environmental Protection Agency (EPA) and the remaining 40 percent to be funded jointly by the DNR and DOT.

The study was undertaken largely as a result of two recent federal requirements. The first was a requirement by the U. S. Department of Transportation, Federal Highway Administration, that transportation plans developed by areawide transportation planning agencies such as SEWRPC be reviewed and certified annually to ensure that air pollution problems are adequately considered in highway planning and development in urbanizing regions.

# SOUTHEASTERN WISCONSIN



The second was an EPA requirement that state air pollution control agencies identify areas which have the potential for exceeding national air quality standards during the 10-year period 1975-1985. Once these areas are identified and designated as air quality maintenance areas, state implementation plans for meeting national air quality standards must be supplemented with strategies for maintaining air quality in these areas through 1985. The EPA further required that the impact of anticipated growth and development on air quality be carefully analyzed in each such area, and that this analysis be coordinated with land use and transportation planning and development. The DNR has proposed to designate the seven-county Southeastern Wisconsin Region as such an air quality maintenance area (see Map 1). The map also shows existing air quality control regions in Wisconsin, which were established pursuant to the federal Air Quality Act of 1970 to delineate multicounty areas with common air pollution problems.

The fact that the Regional Planning Commission is currently conducting a major reevaluation of its adopted regional land use and transportation plans presented the state and Region with a unique opportunity to undertake a long-range areawide air quality maintenance planning program within southeastern Wisconsin that would meet federal air quality maintenance planning requirements.

The Commission will be responsible for most of the inventory and analysis work of the study, and is currently collecting and collating data on existing ambient air quality and air pollution emission sources, as well as certain meteorological data. The Commission, DNR, and DOT will work together to formulate alternative air quality maintenance strategies and select a final plan after public informational meetings and a public hearing are held.

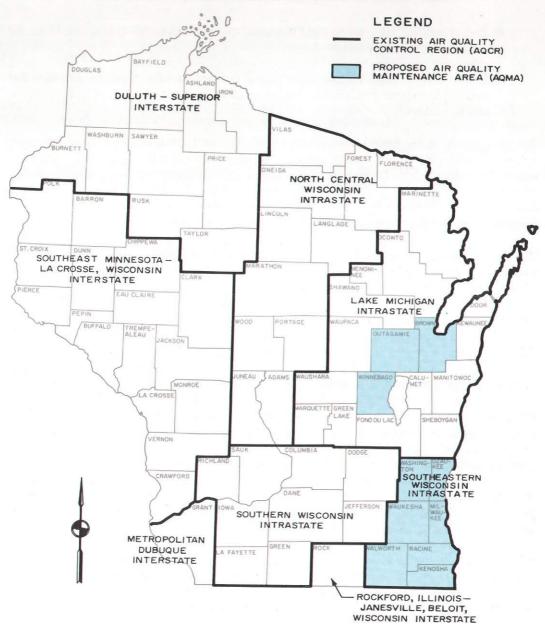
# Need for the Study

According to the Prospectus, a regional air quality maintenance plan is necessary for several reasons:

- Measured and estimated air pollutant concentration levels presently exceed federal and state air quality standards in certain areas of the Region.
- Anticipated population growth and urbanization and resulting increases in stationary and mobile sources of air pollution can further degrade ambient air quality without such a plan.

Map 1

# EXISTING AIR QUALITY CONTROL REGIONS AND PROPOSED AIR QUALITY MAINTENANCE AREAS IN WISCONSIN: 1974



Source: Wisconsin Department of Natural Resources.

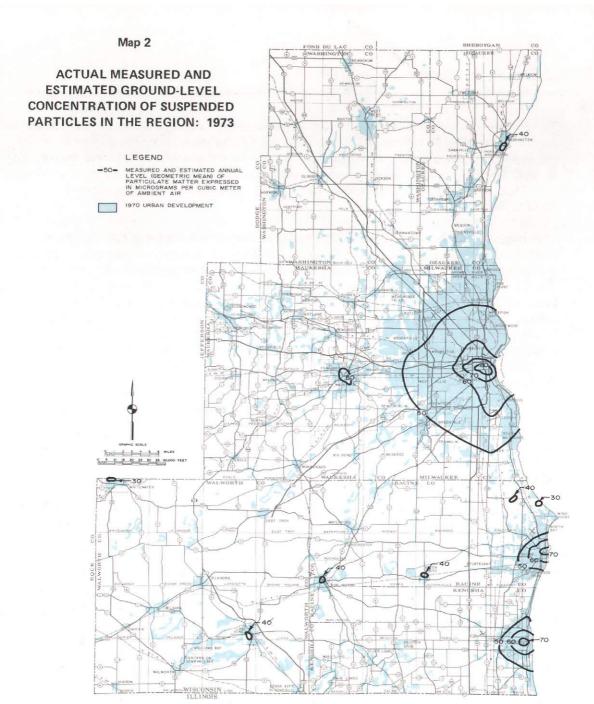
- The effects of alternative land use and transportation systems on ambient air quality need to be evaluated.
- Federal, state, and local air pollution control efforts must be coordinated and these efforts related to development of areawide land use and transportation systems.

To date, the EPA has issued national standards for six pollutants: particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, photochemical oxidants (ozone), and hydrocarbons. The Prospectus notes that while air pollution in the Region today may not be as serious as in some other areas of the country, evidence exists that federal standards for at least three of these pollutants—particulate matter, carbon monoxide, and ozone—are currently being reached or exceeded.

As shown on Map 2, measured and estimated levels of particulate matter for 1973 exceeded federal standards over the Milwaukee central business district and the Menomonee River Valley and adjacent areas in Milwaukee County, and the intensely urbanized and industrialized areas of eastern Racine and Kenosha Counties. The primary standard (maximum pollutant level which should be permitted to occur in order to protect human health) for particulate matter on an annual average level is 75 micrograms per cubic meter. The secondary standard (maximum which should be permitted to occur in order to protect animal and plant life and property) on an annual average level is 60 micrograms per cubic meter.

With respect to carbon monoxide, the adopted primary and secondary national air quality standards specify that the second highest level over a one-year period shall not exceed nine parts per million over an eight-hour period, and 35 parts per million over a one-hour period. Only limited ambient air quality monitoring data are available in the Region to permit a comparison of carbon monoxide in the ambient air with the specified standards, but these data indicate that during a single eight-hour period in 1973, maximum levels of carbon monoxide in excess of 10 parts per million were measured in Milwaukee County.

With respect to ozone, the adopted primary and secondary standard specifies that the second highest level in the atmosphere during a one-year period shall not exceed 0.08 parts per million over a one-hour period. Average hourly levels of ozone as high as 0.19 parts per million have been measured in Milwaukee County.



Source: Wisconsin Department of Natural Resources and SEWRPC.

The Prospectus notes that air pollution is primarily an urban problem because of its direct relationship to human activities. Forecast Commission increases in population, employment, income, and automobile availability over the next two to three decades, as well as the population movement to outlying areas and reliance on the auto to serve the resulting dispersed travel patterns, have important implications for air quality planning.

The Prospectus cites the need for development of an atmospheric monitoring network in the Region. Such a network would provide data to allow planners to compare existing air quality with current standards, to depict long-term changes in air quality levels, and to correlate potential pollutant levels and meteorological conditions as a basis for forecasting air pollution episodes. There is also little information available regarding the quality of air streams which enter the Region from highly urbanized northeastern Illinois and northwestern Indiana. Because of the importance of such data, the final report will include recommendations regarding its collection.

# Air Quality Simulation Model

The most important analytical device to be used in the study is an air quality simulation model which has been developed by the Air Quality Modeling Group at the University of Wisconsin-Madison. The model will allow planners to determine the concentration of pollutants throughout the Region based on a variety of factors, including emissions, weather conditions, land use patterns, the location of transportation facilities such as highways and airports, and available technology.

Once the model has been verified as giving a reasonable estimate of base year (1973) conditions, it can be used to estimate the effect of emission changes on ambient air quality. On a large scale, the model will be used to assess the distribution of pollutants with respect to the location of residential, commercial, and industrial concentrations; agricultural and open greenbelts; and major transportation terminals, such as airports and parking facilities. On a smaller scale, it will be used to determine the effect of sources such as new highways and resulting motor vehicle emissions, a new shopping center, residential development, or a factory.

Three general categories will be simulated: 1973 conditions for comparison with air quality monitoring data; air quality for 1985 and 2000 assuming existing trends in population and employment growth, land use development, and transportation system development and use; and 1985 and 2000 air quality under assumptions of the SEWRPC plan.

Certain meteorological information will also be collected to permit correlation of weather conditions with air pollution levels in the Region, and to provide input to the model concerning atmospheric conditions. The model can also be helpful in determining the most representative pollutant monitoring locations. With a limited number of sampling sites, the model can be used to optimize site locations based on the emissions inventory and meteorological and topographical data.

The members of the Technical Coordinating and Advisory Committee on Regional Air Quality Maintenance Planning include:

Richard Keyes,
Edward N. Erickson, Environmental Meteorologist,
Secretary Southeastern Wisconsin Regional Planning Commission
Alice Altemeier Member, League of Women Voters, Ozaukee County
Norman N. Amrhein Resident President, Federal Malleable Co., West Allis
Kurt W. Bauer
Southeastern Wisconsin Regional Planning Commission
Barbara J. Becker President, Southeastern Wisconsin Coalition for Clean Air
Gerald D. Bevington
Wisconsin Department of Natural Resources, Milwaukee
Eugene M. Cox Executive Director, Comprehensive Health
Planning Agency for Southeastern Wisconsin, Inc.
Roy Elmore Senior Planner, Northeastern Illinois Planning Commission
Edwin J. Hammer Developmental Engineer, Division of Highways,
Wisconsin Department of Transportation
John C. Hanson Director, Racine County Department
of Air Pollution Control
lohn O. Hibbs Division Engineer, Federal Highway Administration,
. U. S. Department of Transportation, Madison
Elroy C. Jagler
National Oceanic and Atmospheric Administration,
National Weather Service Forecast Office, Milwaukee
Thomas R. Kinsey , District Engineer, District 2, Division of Highways,
Wisconsin Department of Transportation
Paul J. Koziar Meteorologist, Wisconsin Department of Natural Resources
Thomas M. Krauskopf Planner, State Planning Office,
Wisconsin Department of Administration

# AIR QUALITY STUDY-continued

Walter A. Lyons			Associate Professor, College of Applied Science and Engineering, University of Wisconsin-Milwaukee
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			Department of Mechanical Engineering,
			University of Wisconsin, Madison
Fred R. Rehm			Director, Milwaukee County Department
			of Air Pollution Control
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			Waukesha County Health Department
Rudolfo N. Salcedo ,	*		Environmental Specialist,
			Division of Planning and Environmental Programs,
			City of Milwaukee
Harvey Shebesta			District Engineer, District 9, Division of Highways,
			Wisconsin Department of Transportation
Michael S. Treitman .			Program Advisor, Region V,
			U. S. Environmental Protection Agency, Chicago
George A. Zimmer .			Supervisor, Environmental Health,
			Kenosha Health Department

### SEWRPC NOTES

# PROGRAM TO STUDY LAND USE EFFECTS ON GREAT LAKES

An intensive joint U. S.-Canadian research effort to determine how land use affects water quality in the Great Lakes is underway in the Menomonee River watershed. The 137-square mile watershed, which lies in parts of Ozaukee, Washington, Waukesha, and Milwaukee Counties, is one of seven watersheds—three in Canada and four in the U. S.—which have been chosen for pilot studies to determine the effect of land use activities on Great Lakes pollution. The Menomonee River watershed pilot study is focusing on the impact of urban land uses on Great Lakes water quality.

The International Joint Commission (IJC) was established by the United States and Canada in 1912 to deal with all matters involving boundary waters. The IJC is conducting the study in cooperation with the Wisconsin Department of Natural Resources (DNR), the University of Wisconsin Water Resources Center, and SEWRPC.

The pilot study will try to determine the levels and amount of major and trace constituents in urban runoff; define the pollutant sources and evaluate their potential behavior; and develop the capacity to predict what might occur in other urban areas in the Great Lakes basin based on its findings.

# **Data Collection Underway**

The U. S. Geological Survey (USGS) field office located in Waukesha has constructed 12 stations throughout the watershed to house instruments for measuring the quantity and quality of river flow (see Map 3). The buildings are located on the major stem of the Menomonee River, on major perennial tributaries such as Underwood Creek, and along selected intermittent streams or storm water and combined sewer outfalls.

As shown in the accompanying photos, the stations were generally built of prefabricated panels set on concrete foundations. At least one station, located along the Menomonee River Parkway, was built of stone in order to be more compatible with its surroundings. The buildings have light and heat, and will be maintained during



SEWRPC Photo

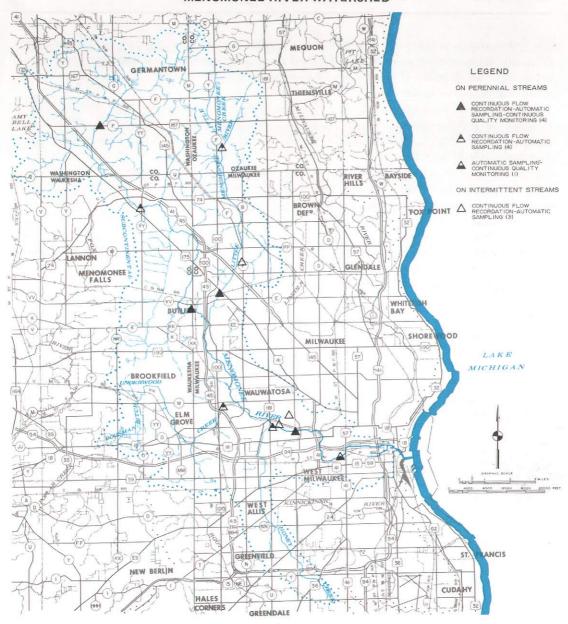
The construction of this station, which was built of prefabricated panels, is typical of that of most of the 12 stations built to house a variety of monitoring instruments. The station is located near the Zoo Freeway crossing of Underwood Creek near the Mayfair Shopping Center.



**SEWRPC Photo** 

This station, located at N. 70th Street in the City of Wauwatosa, was built of Lannon stone so that its appearance would be more in keeping with the parkway and residential area in which it is located.

# LOCATION OF WATER QUALITY-QUANTITY MONITORING STATIONS IN THE MENOMONEE RIVER WATERSHED



Source: SEWRPC.

the three-and-one-half-year study by the USGS. SEWRPC enlisted the cooperation of the local units of government and private landowners concerned—including the Milwaukee-Metropolitan Sewerage Commissions; Milwaukee County Park Commission; Waukesha County Highway and Transportation Commission; Germantown Joint School District No. 1; the Cities of Milwaukee, Wauwatosa, and Mequon; the Villages of Butler, Germantown, and Menomonee Falls; the Falk Corporation; the Washington Highlands Homes Association; and the Lembke Seed Farm—so that the stations could be built.

All 12 stations are equipped with water sampling devices and 11 of the 12 have streamflow measuring devices installed by the USGS. The DNR has installed continuous water quality monitoring instruments in five of the stations. The DNR will maintain the water quality instruments, as well as gather and analyze samples collected by the USGS water quality samplers.

The samples will generally be tested for four parameters:

- Nutrients such as total phosphorus and nitrogen compounds, which cause aquatic plant growth in the stream system.
- Suspended solids and colloidal materials that are washed off the land, mainly during rainfall runoff events. If these materials settle out in a stream, they can interfere with fish habitat and spawning grounds, or accumulate in a harbor estuary and interfere with commercial shipping.
- Pesticides and herbicides, which are known to have an adverse effect on aquatic life. Researchers will try to determine how much of these materials are entering the stream system.
- Heavy metals such as lead and zinc, which have a toxic effect on aquatic life.

The DNR monitoring devices will measure basic parameters such as temperature, pH, dissolved oxygen, and conductivity.

The local watershed was chosen for the study because it contains a variety of urban land uses, including low, high, and medium density residential; commercial and industrial; and transportation; and because SEWRPC is conducting a comprehensive

study of the watershed which, together with information from other SEWRPC planning programs, will provide a substantial information base for the IJC study.

Although the SEWRPC is involved in the study primarily to make data available to the participating agencies, the Regional Planning Commission will also benefit from the study. The program will provide field data which will help planners better understand the relationship between potential pollutants which are washed from the land surface into receiving waters. This information and modeling, as well as other analytical procedures based on this information, will be useful in the SEWRPC's 208 wastewater treatment and management planning program, and its Menomonee and Kinnickinnic River watershed planning programs, and may be useful to consultants involved in the preliminary engineering study required to review and implement the combined sewer overflow pollution abatement recommendations in the Milwaukee River watershed plan, or the most feasible alternative.

# CITIZEN COMMITTEE TO ASSIST IN SEWRPC PLAN REEVALUATION

An 18-member citizen advisory committee has been appointed to assist the Commission in its major reevaluation of the regional land use and transportation plans. The new committee will be concerned primarily with the freeway and transit elements of the transportation plan.

The committee includes six members who are known to favor completion of the freeway system as presently planned, six who are known to oppose it, and six who are known to be neutral or undecided. The committee was formed in response to a request at a Commission public hearing last fall for more citizen input in the plan reevaluation.

It was noted at the hearing that polarization created by pro- and anti-freeway groups has virtually halted freeway construction in the Milwaukee area. It was suggested that these two groups be provided with professional planning assistance to help them formulate alternatives and to interpret technical SEWRPC staff work.

The committee will consider whether to continue building the freeway system as previously planned, to modify it, or to stop freeway construction altogether; and whether a rapid transit system should be developed, and if so, in what form.

Members of the Citizen Advisory Committee on the Freeway-Transit Element of the Regional Land Use-Transportation Plan Reevaluation include:

Orren Bradley President, Boston Store Department Stores
Roger C. Cobb Administrator, Milwaukee Legal Services Program
Richard W. Cutler Attorney at Law, Ex Officio Member and Acting Chairman
D 11 - 449 1 D 11 1 10
Trades Council, AFL-CIO
Leonard C. Hobert Chairman of the Board, Gimbels Midwest;
President, Citizens Governmental Research Bureau
Sebastian Helfer Director of Campus Planning, Marquette University
Cynthia Kukor
Thomas P. Leisle
Harold A. Lenicheck Retired President, Chicago Title and Trust
David J. R. Peckarsky Member of the Board, Wisconsin Coalition
for Balanced Transportation
Mrs. Evelyn Petshek Director of Development,
University of Wisconsin-Milwaukee;
Former Chairman, City of Milwaukee Plan Commission
Dr. Robert F. Purtell, Jr Brookfield, Wisconsin
John S. Randall Former President, Kearney and Trecker Corporation
Lee G. Roemer
Wisconsin Public Service Corporation
•
Dr. Eric Schenker Professor, Department of Economics,
University of Wisconsin-Milwaukee;
Former Chairman, Harbor Commission, City of Milwaukee
Dr. Abraham Scherr Citizens Regional Environmental Coalition
Dr. Abraham Scherr Citizens Regional Environmental Coalition

## THREE NEW SEWRPC COMMITTEES FORMED

Three new SEWRPC committees, dealing with coastal zone development in the Region, abatement of pollution from combined sewer overflow in the Kenosha Planning District, and areawide wastewater treatment and water quality management planning, have been formed by the Commission.

The Technical Advisory Committee on the Abatement of Pollution from Combined Sewer Overflow in the Kenosha Planning District was formed at the request of the Kenosha Water Utility. The committee will help the Utility prepare a prospectus for an engineering study to determine the most cost effective method of abating water pollution caused by combined sewer overflows and clear water infiltration of sanitary sewers in the District. The request was made because the combined sewer separation project in the Kenosha area has not solved the pollution problem.

The Commission completed a similar study in 1973 for the Milwaukee metropolitan area. That study was requested by the Milwaukee-Metropolitan Sewerage Commissions.

# Members of the Kenosha committee include:

Vice-President of Corporate Planning, Snap-On Tools, Inc.;  Kenosha Manufacturers Association Leon Dreger Chairman, Town of Somers Planning Commission James E. Galbraith Director of Planning and Construction,  University of Wisconsin-Parkside Donald K. Holland Director of Public Works, City of Kenosha Robert M. Krill Chief, Municipal Wastewater Section,  Bureau of Water Quality,  Wisconsin Department of Natural Resources Chelvadurai Manogaran Professor, Geography Department,  University of Wisconsin-Parkside O. Fred Nelson	Robert Badger Chairman, Environmental Council;
Leon Dreger	Vice-President of Corporate Planning, Snap-On Tools, Inc.;
James E. Galbraith	Kenosha Manufacturers Association
University of Wisconsin-Parkside  Donald K. Holland Director of Public Works, City of Kenosha  Robert M. Krill Chief, Municipal Wastewater Section,  Bureau of Water Quality,  Wisconsin Department of Natural Resources  Chelvadurai Manogaran Professor, Geography Department,  University of Wisconsin-Parkside  O. Fred Nelson	Leon Dreger Chairman, Town of Somers Planning Commission
Donald K. Holland Director of Public Works, City of Kenosha Robert M. Krill	James E. Galbraith Director of Planning and Construction,
Robert M. Krill	University of Wisconsin-Parkside
Bureau of Water Quality, Wisconsin Department of Natural Resources Chelvadurai Manogaran	Donald K. Holland Director of Public Works, City of Kenosha
Wisconsin Department of Natural Resources  Chelvadurai Manogaran	Robert M. Krill Chief, Municipal Wastewater Section,
Chelvadurai Manogaran	Bureau of Water Quality,
University of Wisconsin-Parkside O. Fred Nelson	Wisconsin Department of Natural Resources
O. Fred Nelson	Chelvadurai Manogaran Professor, Geography Department,
Roger E. Prange	University of Wisconsin-Parkside
William Sanders	O. Fred Nelson General Manager, Kenosha Water Utility
U. S. Environmental Protection Agency	Roger E. Prange Town Clerk, Town of Pleasant Prairie
	William Sanders Unit Coordinator, Planning for Wisconsin, Region V,
Bernard G. Schultz Assistant District Director, Southeast District.	U. S. Environmental Protection Agency
:	Bernard G. Schultz Assistant District Director, Southeast District,
Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources
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The Technical and Citizen Advisory Committee on Areawide Wastewater Treatment and Water Quality Management Planning will assist in preparing an areawide wastewater treatment plan which, when completed, will serve as the basis for approval of construction of publicly owned sewage treatment facilities. The Section 208 wastewater treatment and management planning program was authorized by Section 208 of the Federal Water Pollution Control Act of 1972, which provides for the conduct of areawide wastewater treatment planning programs in the large urban regions of the United States.

The purpose of these programs is to prepare sound long-range plans and management programs for meeting established federal and state water use objectives through abatement of both point and nonpoint pollution sources. The Commission earlier this year was designated as the 208 planning agency for the Region, and is currently preparing an application for program funding.

# Members of the advisory committee include:

Vinton W. Bacon Professor, College of Applied Science and Engineering,
University of Wisconsin-Milwaukee
Robert J. Borchardt Chief Engineer and General Manager,
Milwaukee-Metropolitan Sewerage Commissions
Jon L. Caylor District Conservationist, U. S. Soil Conservation Service,
Kenosha and Racine Counties
Norbert Dettmann
Chairman, State Board of Soil and
Water Conservation Districts
Thomas G. Frangos Acting Assistant Secretary,
Wisconsin Department of Natural Resources
Herbert A. Goetsch
Thomas Hentges
Former Chairman, Town of Burlington
Harlan D. Hirt Chief, Planning Branch, Region V,
U. S. Environmental Protection Agency
Lester O. Hoganson
Myron Johansen
U. S. Soil Conservation Service,
Ozaukee and Washington Counties

Melvin J. Johnson.					Chairman, Town of Norway
Raymond J. Kipp.		•			Dean, College of Engineering, Marquette University
Elwin G. Leet					
O. Fred Nelson		٠.			General Manager, Kenosha Water Utility
Herbert E. Ripley.					Director of Environmental Health Services,
					Waukesha County Department of Health
Donald A. Roensch		٠.			Director of Public Works, City of Mequon
Harold Ryan					Washington County Board Supervisor
Mitchell Urbanski.					.Engineer, American Motors Corporation; Member,
				.	Kenosha County Air and Water Pollution Committee
Rodney M. Vandenl	۷o۱	ven			Director of Public Works, City of Waukesha
Frank A. Wellstein					City Engineer, City of Oak Creek
James F. Wilson .					District Supervisor, Farmers Home Administration,
					U. S. Department of Agriculture

The Technical and Citizen Advisory Committee on the Coastal Zone Development Program in Southeastern Wisconsin will help prepare a prospectus for the coastal zone management program in the Region. The committee provides a means for direct and indirect public participation in matters relating to this development program. Those asked to serve on the Committee include:

Hubert J. Albert	Port Washington Yacht Club
Joseph Babich	Director of Parks, City of Kenosha
William J. Blong	Village Manager and Commissioner of Public Works,
	Village of Fox Point
Robert J. Borchardt	Chief Engineer and General Manager,
	Milwaukee-Metropolitan Sewerage Commissions
Thomas H. Buestrin	SEWRPC Commissioner
Sol Burstein	Executive Vice President,
	Wisconsin Electric Power Company
Benjamin C. Chapla	Health Officer, Town of Caledonia;
	Lakeshore Homeowner

Mrs. Robert E. Diggelman League of Women Voters, Milwaukee
Herbert A. Goetsch
A. F. Golding General Manager, J. I. Case Company
Wayne E. Koessl Kenosha County Board Supervisor; Member,
Town of Pleasant Prairie Planning Commission
John W. Krier Chairman, Town of Belgium; Farmer
Thomas A. Kroehn District Director, Southeast District,
Wisconsin Department of Natural Resources
Dr. Norman P. Lasca Associate Professor, Department of Geological Sciences,
University of Wisconsin-Milwaukee
Elwin G. Leet
Thomas P. Leisle Mayor of Mequon
Harold Mayer Professor, Department of Geography,
University of Wisconsin-Milwaukee
R. Michael Mett Milwaukee County Board Supervisor; Member,
Environment, Economics, and Extension Education
Standing Committee of the County Board
Robert J. Mikula General Manager, Milwaukee County Park Commission
William G. Murphy Professor (Soils Mechanic),
College of Engineering, Marquette University
Mrs. Mary C. Nelson Alderman, City of South Milwaukee
Francis J. Pitts
District Supervisor; Kenosha County Board Supervisor
Phil Sander
Southeastern Wisconsin Sportsmen's Federation
John A. Seefeldt Director, City of Milwaukee Harbor Commission
Norbert S. Theine Administrator, City of South Milwaukee
Thomas N. Wright City Planner, City of Racine

A Wisconsin Coastal Zone Coordinating and Advisory Council has also been created, whose members include local governmental officials from throughout the state, and representatives of regional planning commissions, the University of Wisconsin, and state agencies. The state council is looking at present conditions in the state's coastal zone along Lakes Michigan and Superior, and will attempt to pinpoint potential problems and determine if existing regulatory programs are adequate to protect and develop the coastal zone, or if new efforts are needed.

# ELKHORN, DELAVAN LAKE SANITARY DISTRICT FORM NEW METROPOLITAN SEWERAGE DISTRICT

The Walworth County Metropolitan Sewerage District, encompassing the City of Elkhorn and the area served by the Delavan Lake Sanitary District, has been created as a result of a December 26, 1974 order of the Wisconsin Department of Natural Resources.

Creation of this District provides the institutional structure necessary to implement the Commission recommendation, set forth in the recently adopted regional sanitary sewerage system plan, to provide for a single, areawide sewerage system to serve the Elkhorn-Delavan-Delavan Lake urban area. It is proposed that the new Metropolitan District operate a major new sewage treatment plant on an already acquired site immediately downstream of and adjacent to the City of Delavan sewage treatment facility. The regional plan recommends that the City of Delavan treatment facility ultimately be functionally integrated with the new proposed metropolitan sewage treatment facility in order to take advantage of economies of scale in sewage treatment and provide for a single point of waste discharge. This step could be effected either through the addition of the City of Delavan to the metropolitan sewerage district or through a contract between the two entities.

Once the new metropolitan sewerage district treatment plant is completed, the existing City of Elkhorn sewage treatment plant will be abandoned, as will the private sewage treatment plant serving the Ramada Inn-Lake Lawn Lodge facility on Delavan Lake. The regional plan further recommends that the Walworth County Institutions in the Town of Geneva be served by the new metropolitan sewerage district, thus providing for the ultimate elimination of another small sewage treatment facility. Upon complete implementation of the regional plan in this subarea, no municipal sewage treatment plant effluent will be discharged into Delavan Lake or its tributary streams, a step that should significantly help reverse the deteriorating lake water quality situation.

# WASHINGTON COUNTY ADOPTS SHORELAND-FLOODPLAIN ZONING ORDINANCE

In an important action implementing both the regional land use plan and the Milwaukee River watershed plan, the Washington County Board of Supervisors adopted a county shoreland and floodplain zoning ordinance on March 19, 1975. The ordinance applies to all floodplains and shorelands within the unincorporated areas of the county. With respect to that portion of the county located in the Milwaukee River watershed, the ordinance utilizes the 100-year recurrence interval flood hazard data developed by the Commission under the Milwaukee River watershed study. With respect to that portion of the county lying in the Rock River watershed, the ordinance utilizes flood hazard areas developed on the basis of soils interpretations, pending the development of more definitive 100-year flood hazard data. In accordance with the adopted watershed plan recommendations, the ordinance prohibits all filling and urban development in the natural 100-year recurrence interval floodplain area.

# **QUESTION BOX**

# WHAT ARE POINT, LINE, AND AREA SOURCES OF POLLUTION?

Because direct measurements of emissions from various air pollution sources are not possible, several engineering techniques have been developed to estimate emissions from the various sources. These techniques group emission sources into three basic categories: area, line, and point sources.

Area sources include the small residential, commercial, institutional, and industrial fuel combustion operations, such as for space heating, scattered onsite solid waste disposal operations, and diffused transportation sources including vehicles in collection and distribution movement between the major traffic corridors and the land areas served. Line sources include all major surface transportation facilities along which there is highly concentrated traffic movement. Point sources include major fuel combustion operations, such as electric power generating stations; major solid waste disposal operations, such as incinerators or open burning areas; and major industrial process sources, such as stone quarries, asphalt plants, and foundries.

U. S. POSTAGE WAUKESHA, WIS.

BULK RATE

PERMIT NO. 645

QUOTABLE QUOTE....

"A disorganized retreat on efforts to preserve and protect our natural resources and environment cannot possibly save enough fuel to solve our energy problems. At the same time, we must recognize that our ability to achieve environmental goals is irrevocably tied to social, cultural, and economic factors. We cannot impose environmental controls without fully considering these other concerns.

Alexander Rihm, Jr.
Journal of the Air Pollution
Control Association
June 1974

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

Old Courthouse P.O. Box 769 Waukesha, Wisconsin 53186 Phone: (414) 547-6721

Kurt W. Bauer Executive Director ADDRESS CORRECTION REQUESTED

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