

MICHIGAN FIVE-YEAR STRATEGY
FOR WATER QUALITY, SOLID WASTE, AND
HAZARDOUS WASTE PROGRAMS

for

Water Quality, Solid Waste, and
Hazardous Waste Programs in the Department of Natural Resources
Water Quality Division, Resource Recovery Division,
Environmental Services Division,
Land Resource Programs Division, Geological Survey Division,
Environmental Enforcement Division, Law Enforcement Division,
and the State Planning and Development Regions

prepared by

Environmental Services Division

Office of Environmental Planning and Program Coordination

in cooperation with the above listed

DNR Divisions and the State Planning Regions

July 1979

INTRODUCTION

Purpose

This Michigan Five-Year Strategy for Water Quality, Solid Waste and Hazardous Waste programs is for the period October 1, 1979 to September 30, 1984. The strategy is to be used as a general guide for the Departments' funding requests, a general guide for environmental protection efforts, and for evaluating the effectiveness of the covered programs. In addition, it identifies related activities of Michigan's fourteen planning and development regional commissions. The strategy will be revised each year to incorporate new information, evaluate accomplishments in achieving five-year environmental protection objectives, and adjust priorities. During the 1980 revision, air quality programs will be included in the strategy to achieve comprehensive environmental protection program planning.

Requirements

Regulations for the Federal Clean Water Act (40 CFR 35.1511.2) require states to "...prepare and annually update...a strategy for controlling water pollution problems from point and nonpoint sources." The regulations require the Five-Year Strategy to include: (1) goals for a five-year period, and estimated costs of activities to control priority water quality problems; (2) an identification of governmental entities expected to be responsible for conducting the activities; and (3) a summary of anticipated federal and other funds for the strategy period. This document is prepared to meet both those requirements and those in effect when the strategy was drafted but also has a broader scope to meet State program management needs.

Organization and Content

Chapter II of the strategy includes an assessment of statewide water quality and pollutant problems. The third chapter includes: (1) an identification of statewide pollutant source priorities; (2) Department of Natural Resources' five-year objectives and activities, including estimated activity costs; (3) an identification of anticipated federal and nonfederal funding over the five-year period; and (4) a comparison of projected funding levels to activity costs. Chapter IV contains regional agency pollutant source priorities, five-year objectives and activities. Appendices describe the public participation process for the strategy, the construction grant priority and project list, the State water quality monitoring strategy and water quality management planning.

Public Involvement

Interested citizens and groups will have opportunity each year to review and offer comments on the five-year strategy as part of the annual revision. In addition, we invite comments to be sent at any time to the Office of Environmental Planning and Program Coordination, Environmental Services Division, Department of Natural Resources, P.O. Box 30028, Lansing, Michigan 48909. We will keep all comments for consideration in the next revision.

Abbreviations

AG Department of Attorney General
DNR Department of Natural Resources
MDA Michigan Department of Agriculture
MDPH Michigan Department of Public Health

DNR Divisions and Sections:

EPB Environmental Protection Bureau

AQD Air Quality Division
EED Environmental Enforcement Division
ESD Environmental Services Division

BM Business Management Section
CS Comprehensive Studies Section
DC DNR Data Center
LAB Environmental Laboratory Section
OEPPC Office of Environmental Planning & Program Coordination
OTMC Office of Toxic Materials Control
PSS Point Source Surveys Section
SP Special Programs Section

FD Fisheries Division
FMD Forest Management Division
GSD Geological Survey Division
LED Law Enforcement Division
LRPD Land Resource Programs Division
RRD Resource Recovery Division
WQD Water Quality Division

BIO Biology Section
DO District Offices
ET Engineering and Technical Services Section
FP Facility Planning Section
GA Grants Administration Section
GC Ground Water Compliance and Special Studies Section
NPDES NPDES Compliance Section
O&H Oil & Hazardous Materials Control Section
TC Training & Certification Section
WQM Water Quality Management Planning Section
WW Wastewater Engineering Section

Federal Agencies:

CES Cooperative Extension Service
DOI Department of Interior
EPA Environmental Protection Agency
SCS Soil Conservation Service
USDA United States Department of Agriculture

SUMMARY

Michigan's Five-Year Strategy for Water Quality, Solid Waste and Hazardous Waste Programs is a guide for evaluating environmental protection programs, identifying funding needs and developing grant applications. Seven divisions within the Department of Natural Resources and fourteen Planning and Development Regional Commissions participated in its development.

While the Five-Year Strategy is required under regulations for the Federal Clean Water Act and it meets federal requirements, it has a broader scope to include solid waste and hazardous waste programs. Air quality programs will be included in the annual Strategy revision in 1980 to achieve comprehensive environmental protection planning.

DEPARTMENT OF NATURAL RESOURCE OBJECTIVES AND ACTIVITIES

Seven Divisions in the Department of Natural Resources participated in prioritizing pollutant sources and identifying objectives and activities to address those sources. Those Divisions are: Water Quality Division; Resource Recovery Division; Environmental Services Division; Land Resource Programs Division; Geological Survey Division; Environmental Enforcement Division; and Law Enforcement Division. In addition, many of the planning and development regions provided suggestions for statewide objectives and activities. Following are objectives and activities for Department water quality, solid waste and hazardous waste programs grouped by priorities. Also given are estimates of activity costs.

1. IMPACTS OF IMPROPER DISPOSAL OF TOXIC AND HAZARDOUS WASTES

Objective

A. ~~Implement new hazardous waste legislation.*~~

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u> <u>FY 82</u>	<u>Cost</u> <u>FY 83</u>	<u>FY 84</u>	<u>Agency</u>
a. Assist in completing a hazardous waste management plan.	High	\$399,000	100,000				EPB
b. Provide assistance to hazardous waste facility siting boards.	High	62,000	66,300	70,900	75,000	79,000	EPB
c. Review construction permit applications and plans for hazardous waste facilities.	High	55,000	59,000	63,000	67,000	71,000	EPB
d. Implement manifest system requirements to track and monitor hazardous wastes.	High	60,500	64,700	68,900	73,100	77,400	EPB
e. Follow up on citizen and agency complaints regarding transportation, storage or disposal of hazardous wastes. Conduct investigations and inspections.	High	120,000	128,400	136,800	145,200	153,600	EPB
f. Provide laboratory and data processing support.	High	95,000	101,650	108,300	114,950	121,600	ESD

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>					<u>Agency</u>
		<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
g. License hazardous waste facilities for operation, conduct periodic facility inspections.	High	\$90,000	96,300	102,600	108,900	115,200	EPB
h. Use a special hazardous waste clean-up fund to protect the environment and human health.	High	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	DNR
i. Produce enforcement capability.	High	113,150	141,450	181,600	194,300	207,900	EED

* Completion of activities a through j is contingent upon enactment of Substitute House Bill 4380, currently being considered by the Michigan Legislature.

j. Construct a state-owned hazardous materials disposal facility, including:	High						ESD
1. Delineation of waste profiles.		\$ 80,000					
2. Feasibility studies of technical and economic alternatives.		\$150,000					
3. Site selection.							
4. Economic evaluation.							

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
j. continued							
5. Detailed engineering design of facility.	High	\$6,500,000					ESD
6. Procurement for facility.							
7. Facility construction.		\$60,000,000					
8. Start-up and trial runs.							
9. Production.							

B. Provide technical assistance and public information and education on hazardous waste management.

C. Provide coordination with the Michigan Departments of Public Health and Agriculture and the Toxic Substance Control Commission on hazardous and toxic materials issues.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
a. Provide technical assistance on hazardous and toxic materials issues throughout the DNR and coordinate and provide assistance to other state agencies, groups and citizens, including: coordination with the Toxic Substances Control Commission, Departments of Health and Agriculture.	High	\$56,700	60,700	64,900	69,500	74,300	ESD-OTMC

Develop a procedural agreement with the Departments of Agriculture and Public Health

EPB
DPH
MDA

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
to define agency roles in responding to potentially harmful toxic and hazardous materials incidents.							
b. Conduct the Great Lakes Environmental Contaminants Survey to analyze toxic contaminants in Great Lakes fish in cooperation with U.S. Fish and Wildlife Service, Food and Drug Administration, MDPH and MDA.	High	\$150,000	160,500	171,750	183,750	196,600	ESD-OTMC OTHER AGENCIES
c. Review and update the Critical Materials Register to determine which chemicals are of significant environmental concern. Conduct intensive follow-up on usage and discharge of chemicals on Critical Materials Register.	High	\$225,000 141,800	240,750 151,700	257,600	293,700	314,250	ESD-OTMC ESD-PSS

- D. Develop a data base containing information on rates of degradation of various hazardous and toxic wastes by physical, chemical and biological processes.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u> <u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>Agency</u>
a. Develop data base which assembles and codifies existing data on rates of degradation of various toxic materials.	High	\$50,000	25,000	10,000	10,000	10,000	ESD-OTMC RRD
b. Develop expertise on pollutant absorption and transport through soils in ground water.	High	14,200	15,200	16,250	17,350	18,600	WQD-GC

6. POLLUTANT IMPACTS OF SOLID WASTE DISPOSAL

Objective

A. Prohibit the establishment of new open dumps.

<u>Activity</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
a. Review hydrogeological and engineering data for proposed facilities.	High	\$56,700	91,000	64,950	69,450	74,350	RRD

B. Conduct the inventory of open dumps and provide continued surveillance.

<u>Activity</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
a. Conduct the inventory.	High	\$279,900	242,700	129,850	69,450	74,350	RRD
b. Continued surveillance.	High	\$56,700	60,700	162,300	243,150	260,200	RRD

C. Close or upgrade all improperly operated and sited land disposal facilities with consent agreements and initiate remedial actions where appropriate.

<u>Activity</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
a. Close or upgrade facilities.	High	\$363,850	182,050	259,700	277,900	297,350	RRD
b. Review proposed remedial measures; develop and implement a policy to provide prompt, uniform enforcement action; and provide enforcement capability.	High	\$72,000	77,000	82,500	88,900	94,400	EED RRD WQD

D. Assure that new, expanded, and existing landfill facilities have adequate hydrogeological evaluations and engineering plans.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Review and comment on engineering and hydrogeological data submitted and deny applications without adequate data.	High	\$113,400 \$ 2,000	197,200 \$ 2,200	211,000	225,800	241,600	RRD EED

E. Institute ground water monitoring system for all new, expanded, and existing facilities.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Institute ground water monitoring system.	High	\$85,050	60,700	64,950	69,450	74,350	RRD

F. Institute construction permit program (ongoing).

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Institute the construction permit program as required by Act 641, PA 1978.	High	\$113,400	91,000	97,400	104,200	111,500	RRD
b. Review program for enforceability and provide enforcement capability.	High	\$2,000	4,400	15,200	32,500	34,800	EED

G. Develop a new system of compliance monitoring for solid waste disposal facilities within one year.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost FY 82</u>	<u>Cost FY 83</u>	<u>FY 84</u>	<u>Agency</u>
a. Develop and institute new inspection and monitoring procedures.	High	\$56,700	60,700	64,950	69,450	74,350	RRD
b. Review system to insure actionable violations are recognized.	High	\$3,050	1,650	600	600	650	EED

H. Develop and update a system to compile the status of all solid waste disposal facilities.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost FY 82</u>	<u>Cost FY 83</u>	<u>FY 84</u>	<u>Agency</u>
a. Develop and update computer program.	High	\$102,100	17,000	19,500	20,850	22,300	RRD ESD-DC
b. Gather and key punch data.	High	\$56,700	45,500	48,700	52,100	55,750	RRD
c. Update data.	High		\$45,500	48,700	52,100	55,750	RRD

I. Develop and implement a local health department certification program.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost FY 82</u>	<u>Cost FY 83</u>	<u>FY 84</u>	<u>Agency</u>
a. Develop and implement certification program.	High	\$28,350	30,350	32,450	34,750	37,150	RRD
b. Administer grant program.	High	\$28,350	30,350	32,450	34,750	37,150	RRD
c. Review the certification guidelines to be sure that effective enforcement is not precluded or threatened.	High	\$1,000	1,200	1,300			EED

J. Implement the county solid waste management planning requirements of Act 641, PA 1978.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Review and comment on county plans.	High	\$56,700	60,700	64,950	69,450	74,350	RRD
b. Administer grant program.	High	\$28,350	30,350	32,450	34,750	37,150	RRD

K. Fulfill the requirements of the RCRA planning program by the end of July, 1981, then update.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Develop state plan document which incorporates the data from other problem solving activities.	Medium	\$167,950	30,350	32,450	34,750	37,150	RRD

L. Investigate the feasibility of a certification/training program for operators and inspectors in fiscal year 1980.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>			<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	
a. Investigate the feasibility of certifying operators and inspectors.	Medium	\$14,200					RRD

7. SURFACE AND GROUND WATER IMPACTS FROM INDUSTRIAL SLUDGE DISPOSAL SITES

Objective

- A. Require adequate siting and control to prevent surface and ground water problems.
 B. Identify and correct existing problem sites.

<u>Activities</u>	<u>Priority</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Estimated Cost</u>		<u>FY 84</u>	<u>Agency</u>
				<u>FY 82</u>	<u>FY 83</u>		
a. Identify and prioritize sludge disposal sites and require correction where necessary and conduct field inspections, permit drafting, permit review, plan review and conferences.	High	\$109,150 28,350	98,850 30,350	105,850 32,450	90,550 34,750	96,550 37,150	WQD-DO,GC RRD
b. Conduct hydrogeologic studies where requested. (18 surveys/yr)	High	140,000	138,000	162,000	172,000	187,000	ESD-PSS WQD-GC GSD
c. Develop and implement compliance tracking, referral and enforcement procedures and provide enforcement capability where necessary.	High	32,600	33,700	35,000	37,450	40,100	EED WQD RRD
d. Environmental assessment of hazardous waste disposal areas.	High	7,650	8,200	8,750	9,350	10,000	EED RRD WQD ESD

B. Assure compatibility of water quality and solid waste programs and coordinate both with the public water supply program.

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>				<u>Agency</u>	
		<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>		<u>FY 84</u>
a. Formalize coordination procedures, policies and division functions.	High	\$14,200	15,200	16,250	17,350	18,600	RRD ESD WQD DPH

33. POLLUTANT REDUCTION AND RESOURCE CONSERVATION THROUGH RESOURCE RECOVERY

Objective

A. Provide technical and legal assistance on resource recovery (ongoing).

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>					<u>Agency</u>
		<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	
a. Work with private enterprise, local governments and citizens on resource recovery projects.	High	\$85,050	91,000	97,400	104,200	111,500	RRD
b. Act as liaison between RRD and the Attorney Generals' Office and County Prosecutor. Obtain legal opinions.	High	\$1,500	1,600	1,750	1,900	2,000	EED

B. Develop a waste exchange program for a variety of industrial and general categories.

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>					<u>Agency</u>
		<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	
a. Develop a waste exchange program.	High	\$28,350					RRD
b. Update the program.	High		\$30,350	32,450	34,750	37,150	RRD

C. Refine the market study for recovered materials and update yearly

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>					<u>Agency</u>
		<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	
a. Refine the market study and update.	High	\$14,200	15,150	16,250	17,350	18,600	RRD

D. Investigate and provide a catalog of resource recovery technology and available financial assistance.

<u>Activities</u>	<u>Priority</u>	<u>Estimated Cost</u>					<u>Agency</u>
		<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	
a. Investigate and catalog.	High	\$14,200	15,150	16,250	17,350	18,600	RRD

