

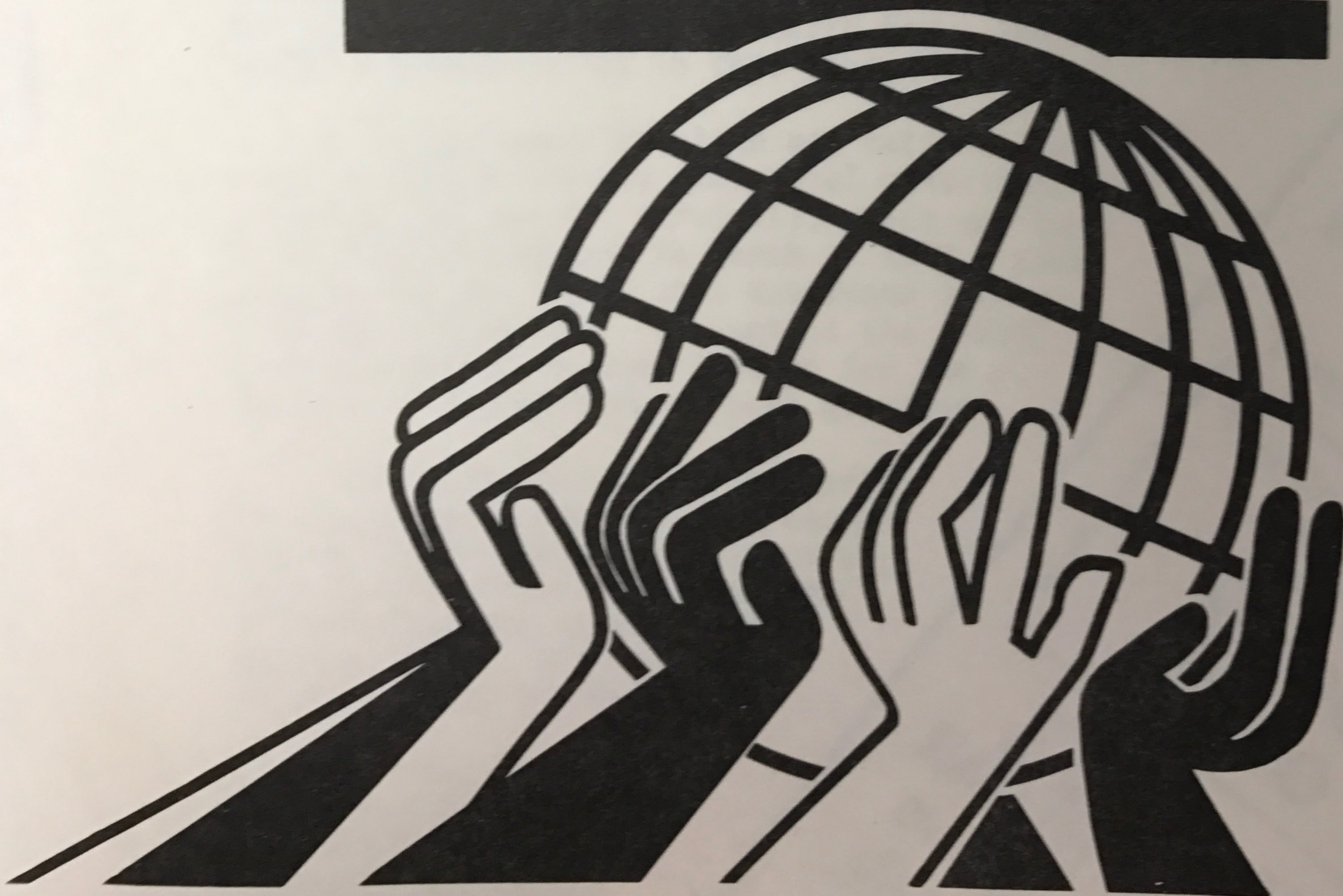
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**EARTH  
DAY '80**

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**APR. 22**

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Ecology Center Of Ann Arbor  
417 Detroit Street  
Ann Arbor, Michigan 48104



# Ecology Reports

Editor: Dave Lynch

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## Ann Arbor Prepares for Earth Day '80

Earth Day - April 22, 1970 - was a watershed event for the cause of environmental protection in the United States. All across the country, citizens expressed support for cleaning up the environment by holding teach-ins, rallies and marches. Nearly 20 million people were involved. A new national commitment was born that day - a commitment to clean up air and water, provide safe and healthful workplaces, rejuvenate cities and protect natural areas from uncontrolled development.

The original Earth Day constituency was extremely broad-based, and couldn't easily be pigeonholed according to labels like "liberal" or "conservative." People from all walks of life participated, and the movement was thus able to garner the necessary political support for its environmental goals. The National Environmental Policy Act, Clean Air Act and Clean Water Act can all be regarded as outgrowths of the environmental movement which began on Earth Day. The same can be said for the Michigan Environmental Protection Act in this state.

A large number of state and national environmental groups also had their beginnings in the era's new ecological consciousness. One such group was U-M ENACT (Environmental Action for Survival), which was born in late 1969 and held a four day teach-in on the environment in March of 1970. Later that year, ENACT went on to set up the Ecology Center, which soon developed into a non-profit organization entirely separate from the University. Throughout the 1970's, the Ecology Center and similar groups have endeavored to keep concern for the environment alive among public policy makers and the citizenry through both education and direct political action.

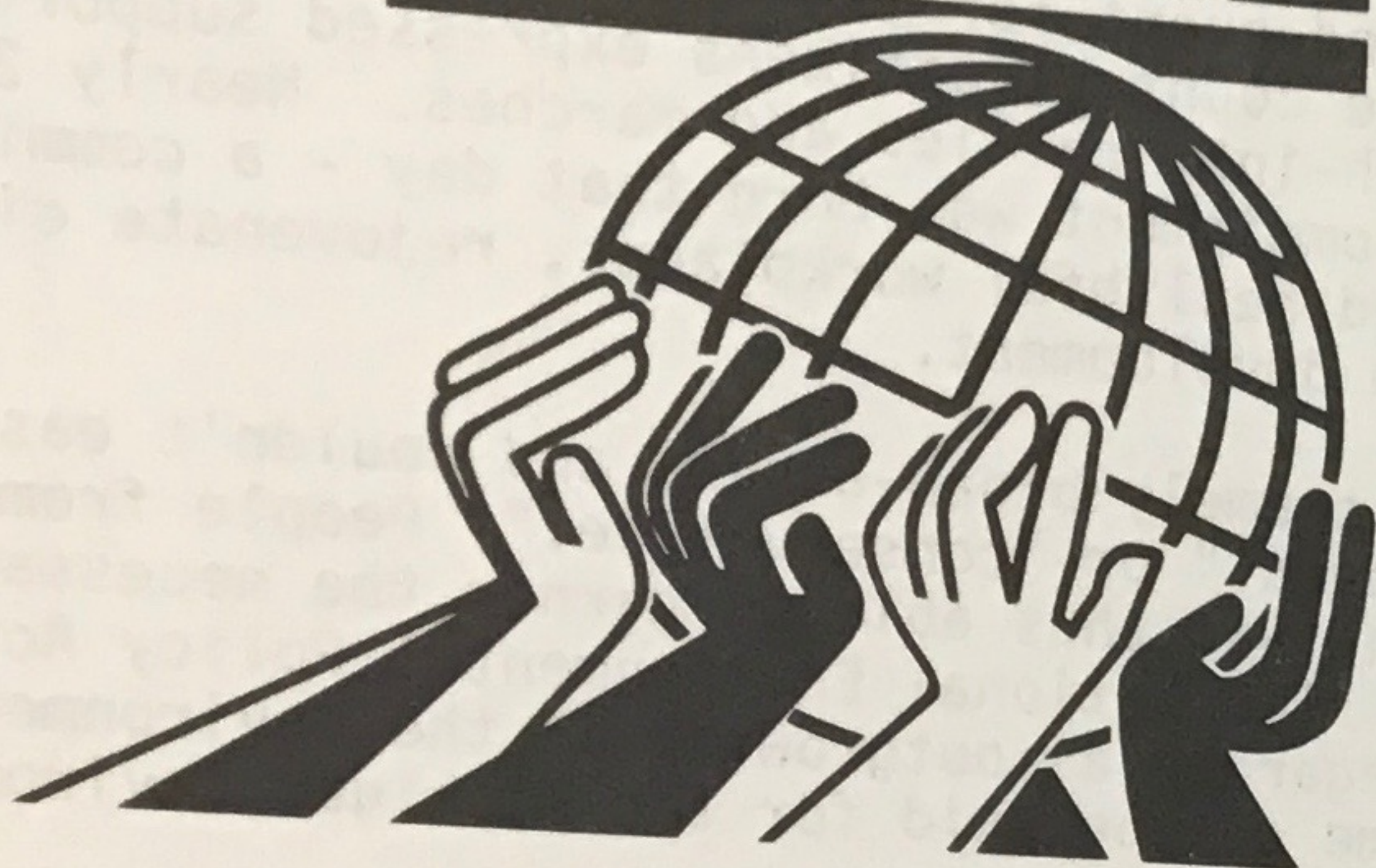
The tenth anniversary of Earth Day couldn't have come at a better time. Although we have made headway, recent events have shown that the progress of a decade can be eliminated in an instant unless we maintain constant vigilance. Environmentalists have constantly fought the erroneous assumption, spawned by many business and political leaders, that environmental protection conflicts with economic and energy production goals. With economic and energy crises mounting as we enter the 1980's, the attacks on the environment have escalated.

To expedite the siting of priority energy projects, the proposed Energy Mobilization Board may be given the authority to undercut provisions of a number of hard-won laws designed to protect public health and the environment. Large scale development of synthetic fuels threaten the air, land and water in vast areas of the west. Government and business continue to argue that compliance with environmental standards adds unreasonably to the costs of production and thus to the nation's inflation rate.

And while significant environmental progress was made during the 1970's (with Michigan taking the lead on issues such as beverage container deposits, household laundry detergent phosphorus levels and wetlands protection), a whole new set of complex problems has recently come to light. Widespread use of toxic substances and improper disposal of hazardous wastes have emerged as particularly threatening to the environ-



# EARTH DAY '80 APR. 22



ment and public health. Worldwide use of nuclear power poses its own set of potentially catastrophic environmental risks.

Against this backdrop we have an opportunity to reassert the importance of environmental values and to promote alternative, ecologically sound policies for the eighties. Earth Day '80 will hopefully serve as a springboard for a new nationwide commitment to a more livable future. As in the first Earth Day, fairs, conferences, seminars and workshops are scheduled in communities across the nation. Government units at all levels have issued Earth Day proclamations, and environmentalists are pressing for commitment to ecological goals among candidates in this election year.

Here in Ann Arbor, City Council has passed a resolution commemorating Earth Day '80 and authorizing the closing (or opening, depending on your perspective) of Main Street downtown for an Earth Day '80 fair. The fair is planned by the Ecology Center and a number of other local environmental groups, which have formed the Ann Arbor Coalition for a Second Environmental Decade to prepare for the event.

The fair will be held throughout most of Tuesday, April 22nd, on Main Street between William and Washington. Spokespersons from both government and citizen groups are scheduled to speak on a wide range of environmental topics. Booths and displays on environmental issues and appropriate technology are also planned. Live music (including a possible evening square dance) and "new games" will add to the festivities.

If you are interested in taking part in any of the Earth Day '80 fair activities, please call the Ecology Center at 761-3186 to get involved. If you can't help prepare for the event, we hope to see you on Main Street, Tuesday, April 22nd, showing your support for a second environmental decade!

*(THE ENTIRE MONTH OF APRIL IS FILLED WITH LOCAL, STATE AND NATIONAL ENVIRONMENTAL EVENTS, INCLUDING AN ANTI-NUCLEAR MARCH ON WASHINGTON ON APRIL 26TH. ON FRIDAY, APRIL 25TH, THE ECOLOGY CENTER WILL HOLD AN OPEN HOUSE FROM 3 TO 6 PM TO COMMEMORATE THE CENTER'S TENTH BIRTHDAY. WATCH AROUND TOWN FOR THE EARTH DAY '80 CALENDAR WHICH DETAILS APRIL ACTIVITIES, SOME OF WHICH ARE ALSO LISTED AT THE END OF THIS NEWSLETTER.)*

## Center Questions Need for Nuclear Power

On Monday, March 31st, the Ecology Center testified before the state legislature's Special Joint Committee on Nuclear Energy. Calling for a halt in construction of nuclear power plants and a phase-out of those currently operating, the Center urged Michigan lawmakers to "take an active role in promulgating statewide energy policies, especially as they relate to the public's health and safety."

The Center identified a range of unsolved problems relating to nuclear power generation. In addition to the ever-present chance of a serious accident similar to that

at Three Mile Island, Center testimony detailed the known public health dangers resulting from the handling of uranium throughout the nuclear fuel cycle. Also cited were several documented operational deficiencies of nuclear reactors, including serious violations of Nuclear Regulatory Commission safety standards at Michigan's four existing nuclear plants.

The Center emphasized that the twin problems of radioactive waste disposal and reactor decommissioning have not been resolved on a technical level and could ultimately impose significant economic burdens on Michigan consumers. The plants continue to operate in the absence of acceptable solutions, and radioactive waste is accumulating in "temporary" storage facilities at plant sites.

The Center disputed utility company claims that there is a need for nuclear power today or in the next two decades. The Center's analysis demonstrated that Detroit Edison's long range projections for growth in peak load demand have been (continued)

## Bike-a-thon Kicks Off Bicycle Week

This year's Ecology Center Bike-a-thon will be the first event in an eight day series of activities designed to promote bicycling in Ann Arbor. "Eight Great Days in May", sponsored by the City of Ann Arbor Bicycle Program and the Ann Arbor Bicycle League, will run from Sunday, May 4th through Sunday, May 11th and will feature a different bicycling activity each day.

The Bike-a-thon will be held from noon to 5 PM on Sunday, May 4th (the rain date is Sunday, May 18th) and will once again be cosponsored by the Ecology Center, Ann Arbor Bicycle League, Ann Arbor Bicycle Touring Society and Ann Arbor Citizen's Band Emergency Group. Cyclists raise funds for the Ecology Center by asking people to pledge an amount of money per mile that they ride during the Bike-a-thon. It is the year's largest fundraiser for the Center, as well as an effective way to show your support for safe bicycling in the Ann Arbor area.

Bike-a-thon participants will have a choice of routes to cycle on May 4th. The "city route" is an 11 mile ride entirely within Ann Arbor. The 28 mile "county route" follows Huron River Drive to Dexter and returns to Ann Arbor via Parker and Scio Church roads. Experienced cyclists may wish to take part in the 100 mile Grape Century Ride, which is part of the Bike-a-thon again this year. The routes are well-monitored during the Bike-a-thon and a wide range of safety measures will be taken.

Anyone interested in riding in the Bike-a-thon should pick up a brochure and sponsor sheet at the Ecology Center, City Hall, Ann Arbor Public Library or area bicycle and sporting goods stores. Call the Ecology Center at 761-3186 for further information.

Other activities slated for the remaining "Eight Great Days in May" include a "ride to work with the mayor" day, commuters repair clinic, commute-by-bike day, bicycle film festival, bicycle parade and Historic District bike tour. For more information on these events, call the City of Ann Arbor Bicycle Coordinator at 994-2814.

Show your support for bicycling in Ann Arbor by participating in this year's Bike-a-thon and the many other bicycling events in May!



consistently wrong. In fact, Edison overestimates have ranged from 20% to 30% above actual demand for the last eight years. By using a discredited and fundamentally self-serving set of growth assumptions, Edison has tried to build a case for bringing the Fermi II and (until last month) Greenwood nuclear units on line. The Center noted that "Edison seems compelled to forecast in this manner because if the growth rate in peak demand is not as high as they project, then there is absolutely no justification for the added capacity represented by the Fermi and Greenwood reactors."

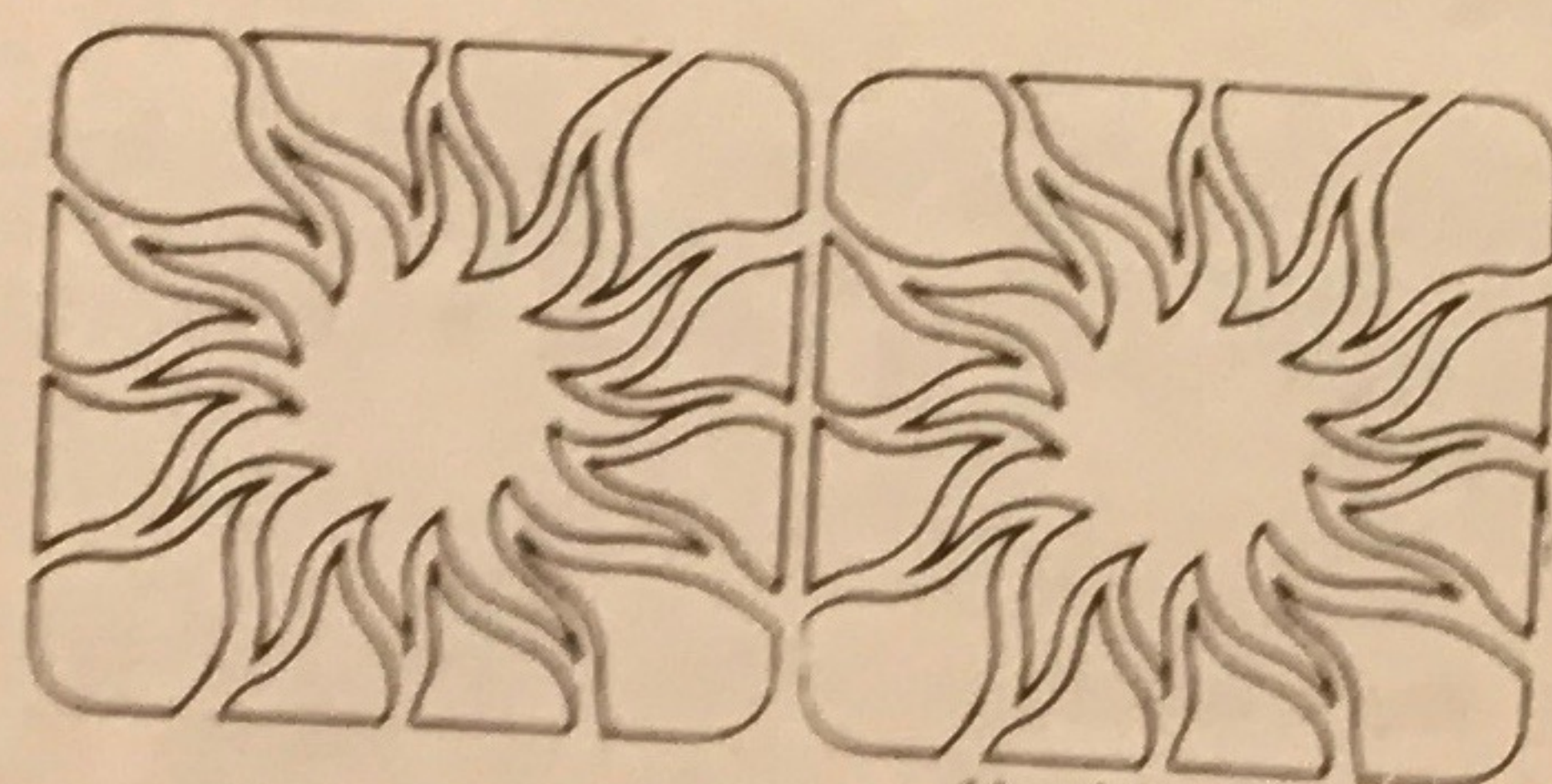
The adequacy of generating capacity reserve margins was also addressed (reserves are considered sufficient if they fall in the 12% to 22% range, depending on the source one quotes). The Center's testimony focused on Edison's inflated reserve projections - which average nearly 29% for the next eight years - and reminded legislators that these were also based on Edison's faulty growth assumptions.

Given a more realistic analysis of growth in demand, the projected available reserves could exceed 35% in this decade (with the addition of Fermi II). The obvious conclusion is that the real impact of Fermi II could easily be the unnecessary padding of an already sufficient reserve margin.

The Ecology Center concluded that the electrical generating capacity in Michigan right now (minus the capacity provided by existing nuclear units) would be sufficient to meet the state's needs for at least the next ten years, given a commitment by the legislature to several key energy policies: tax incentives to promote energy conservation; active use of load management programs to reduce peak demand (e.g. controls on air conditioner usage); implementation of specific energy conservation policies by 1982; emphasis on conversion to cogeneration in the industrial sector; and development of renewable fuel sources in this decade.

According to the Ecology Center, "Combining low cost energy conservation programs with various peak demand leveling techniques will save energy and money." The Center referred to an energy conservation program implemented in Los Angeles after the 1973 oil embargo. That city adopted a plan to reduce electricity use by a target figure of 12%. The actual decrease in consumption totalled a remarkable 18% (18% residential, 11% industrial and 28% commercial) in only four months time. According to Daniel Yergin, coauthor of *ENERGY FUTURE*, these dramatic results were accomplished with "a minimum of sacrifice and disruption, and required virtually no investment." Even a year after the program was discontinued, consumption was running at a rate 8% lower than before the crisis.

The Los Angeles example indicates that it is not unreasonable to expect reductions in energy consumption as high as 20%. With changes of this magnitude, no new Michigan nuclear plants would need to be opened in this century. This twenty year period would provide enough time to plan and develop a transition to renewable energy sources - which ultimately represent the only rational solution to our ongoing energy problems.



Workbook/cpf

## Michigan Solid Waste Problems and Solutions

-Thomas J. Blessing-

Michigan, with a population of nine million people and myriad manufacturing facilities, generates 26,000 tons of general refuse and 130 tons of hazardous waste per day. Yet today, 64 of Michigan's 83 counties do not have an approved landfill or within two years will be without landfill space. Further, there is no public hazardous waste disposal facility anywhere in the state. This is the status of solid waste management as reported by the Resource Recovery Division of the Michigan Department of Natural Resources in its 1978 state plan and 1979 updated study.

This situation led environmentalists to voice their long-standing concern over improper disposal methods and the need to protect the general health and welfare of Michigan residents. The legislature responded.

The passage of P.A. 641 of 1978 (Solid Waste Management Act) and P.A. 64 of 1979 (Hazardous Waste Management Act) by the state legislature brought Michigan the most comprehensive set of laws governing waste disposal that can be found anywhere within the United States. In addition to the recent passage of these two acts, the Resource Recovery Commission was created to advise the DNR on matters of solid waste management with the passage of P.A. 366 of 1974. These laws established the framework within which solid waste problems will be solved.

Up until the signing of P.A. 641, solid waste management was regulated under provisions of P.A. 87 of 1965 as amended. This act, although somewhat limited in scope, was as comprehensive as any in the country at the time of its passage into law. One section of P.A. 87 called for municipalities with populations of 10,000 or more to prepare plans detailing environmentally sound waste management systems for handling refuse.

Submittal of plans for DNR approval was required no later than July 1, 1974. In December of 1974, P.A. 366 was passed, requiring municipalities to implement their solid waste plans within two years and giving the Resource Recovery Commission authority to enforce compliance for municipalities which did not meet the two year deadline.

If these two laws had been enforced as intended by the legislature, every Michigan municipality with a population greater than 10,000 would be in the process of implementing an environmentally sound solid waste management program. Yet today we are far from attaining this goal, and lack of enforcement is the single largest contributor to the current situation.

According to the preliminary draft of a report on "Michigan's Solid Waste Problems" prepared by the DNR, 23 Michigan counties have no approved landfill in operation. Twelve counties have a landfill licensed under P.A. 87 and are not expected to be relicensed under P.A. 641. Only nineteen Michigan counties have disposal facilities with over two years life expectancy remaining. It is clear that we are simply running out of disposal space.

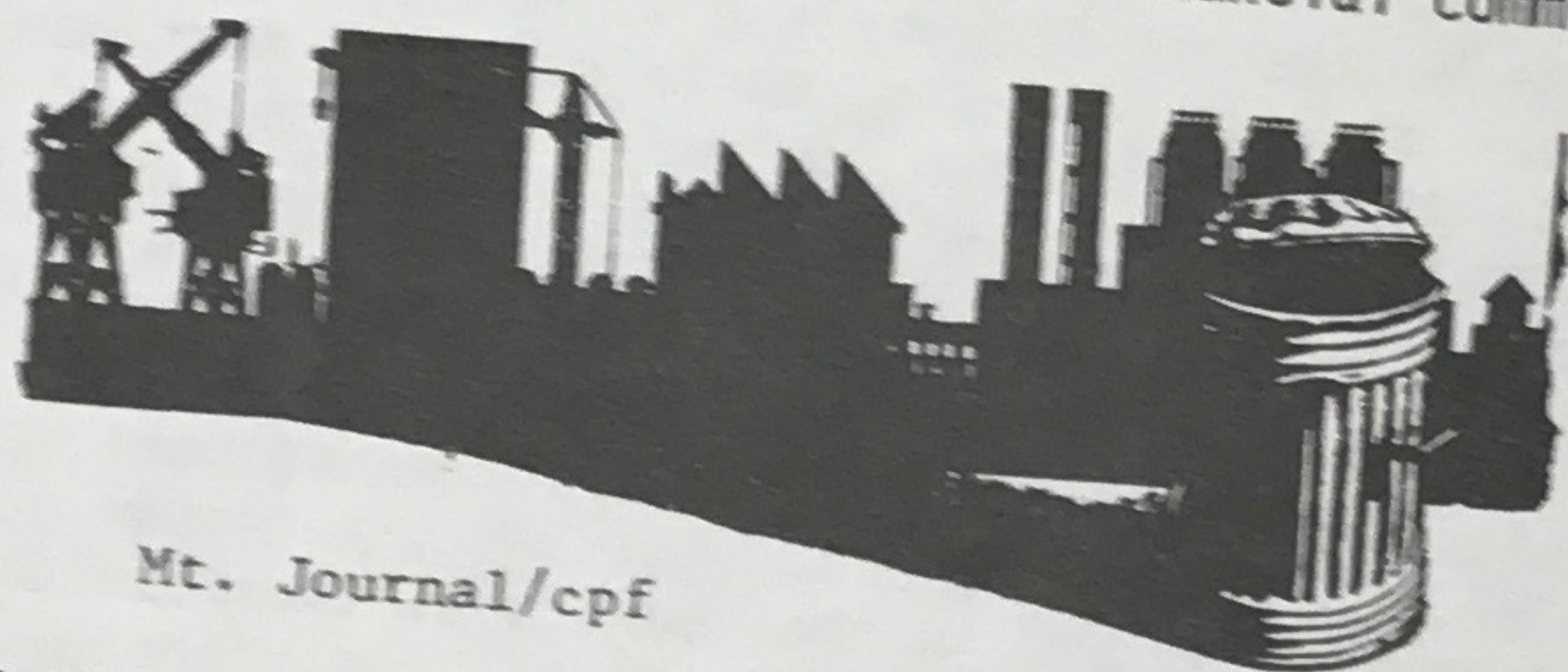
Lack of proper disposal areas for general municipal refuse can only lead to improper disposal. The contamination of ground and surface waters from improper disposal is well documented. Leachate formed from water saturating the refuse can contaminate groundwater supplies and destroy uses of surface waters.



Adding to the seriousness of the general refuse disposal problem is the frequent contamination of municipal waste with hazardous waste. For example, investigation of the disposal methods used for PBB contaminated waste determined that much of the waste had been deposited in the Gratiot County landfill. At a public meeting of the Resource Recovery Commission, the landfill operator testified that a local company disposed of waste that would "eat the meat off your bones" at the landfill. Even if the Gratiot County landfill had been a secure place to deposit municipal refuse (it was not), it would not likely have been secure for hazardous waste.

The mixing of hazardous waste with municipal refuse for disposal can be attributed, in part, to the total absence of a general hazardous waste landfill facility in the state of Michigan.

The problems, then, are failure of the DNR to effectively enforce solid waste laws, mixing of general refuse with hazardous waste, and the lack of disposal sites for both general refuse and hazardous waste. The solutions to the problems are complex and will require both the political will and financial commitment of the state.



Michigan's 1979 Hazardous Waste Management Act establishes a means by which the public can be assured that hazardous waste will be properly handled. Under this law, responsibility for management of hazardous waste lies with the private sector. However, the management is strictly regulated. The law requires tracking hazardous waste from the point of production to its final disposal (cradle to grave). This should greatly reduce the contamination of municipal refuse with hazardous waste. Also, a procedure for siting a hazardous waste disposal facility is established. Although no facility has yet been constructed, most observers believe the law will expedite the siting process. The costs to the general public will likely be in the form of somewhat higher prices for goods and services using or generating hazardous materials.

The state legislature has emphasized the role of local government in its approach to disposal of municipal waste. The Solid Waste Management Act requires each municipality to make sure that an environmentally safe method of refuse disposal exists within the community. Under the law, the state agreed to fund 80% of the costs of local planning necessary to determine the best ways for communities to manage their municipal wastes.

There are a number of waste management options available to a community, including 1) landfilling; 2) source separation (e.g. curbside pickup of recyclables); 3) resource recovery using high technology; and 4) resource recovery using appropriate technology. An October, 1979 report of the Resource Recovery Division provided a thorough analysis of such waste management techniques.

The landfill alternative potentially represents the lowest economic cost. The social costs of landfills include the burying of valuable resources, loss of land for other uses and the ongoing difficulty of finding new landfill locations as existing

facilities become filled.

Multi-material source separation is an attractive option due to the low net cost and the potential 15% to 27% reduction in volume required for ultimate disposal. Revenues from the sale of recovered materials may allow this option to break even or, with high market prices, make a profit. Social benefits include the reduced need for landfill space and reclamation of valuable materials from the waste stream.

However, approximately 80% of the waste stream would still remain if a community implements a source separation system. Incineration with energy recovery would substantially reduce the remainder of this waste while generating steam that can be sold.

The greatest reduction in waste that must be landfilled results from a totally mechanized "high technology" processing system. Source separation is not included in this approach. A reduction in landfilling of municipal solid waste of over 70% is possible using this option.

Many environmentalists have favored a combination of options under an "appropriate technology" approach. Landfills, source separation and incineration with energy recovery are combined as appropriate to the needs of the individual community served. Appropriate technology would reduce the total Michigan municipal waste stream by an estimated 68%.

The table below summarizes the economic costs and waste disposal impacts of three management options. The estimates do not include pickup, hauling or transfer station costs.

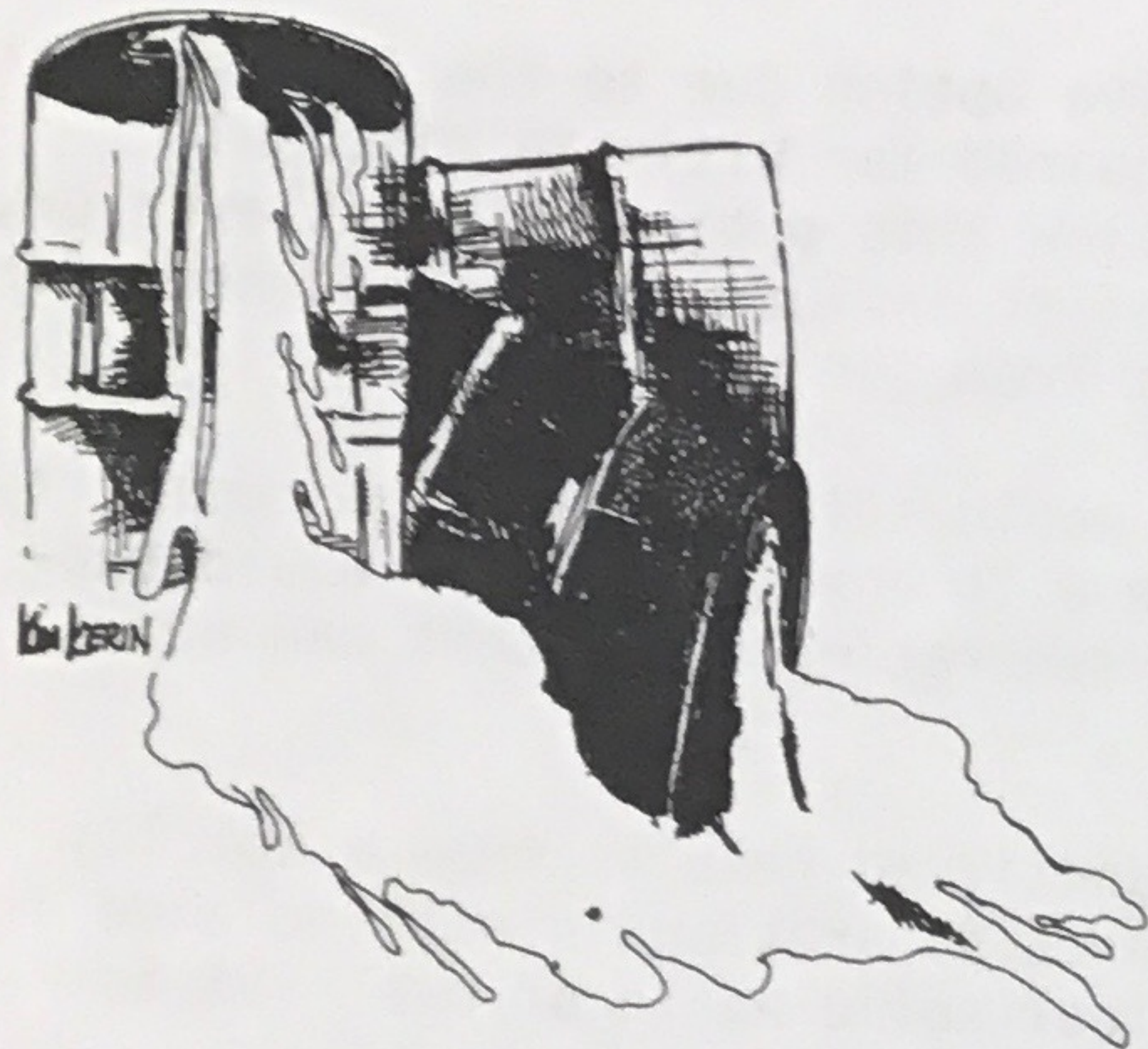
OPTION	NET ANNUAL STATEWIDE COST (\$ million)	STATEWIDE QUANTITY FOR LANDFILL (tons/day)
LANDFILL ONLY	23 - 141	25,800
RESOURCE RECOVERY USING APPROPRIATE TECHNOLOGY	54 - 110	8,400
RESOURCE RECOVERY USING HIGH TECHNOLOGY	162 - 228	5,160

The per ton cost for landfills goes up as landfill size goes down. However, a larger centralized landfill will lead to higher hauling and handling costs. The initial attraction one might have for the LANDFILL ONLY option tends to wane with an overall look at the total costs.

A very brief comparison of high technology to appropriate technology systems reveals the marginal benefits of the high technology approach. There is minimal effect on the quantity of waste requiring disposal and the cost is far greater with the high technology option.

The most cost/effective solution is the appropriate technology system. However, the net cost for appropriate technology is dependent on the value of the materials





recovered and the steam generated. Should the market value of materials and steam rise or fall, the net cost will change.

Recovered materials and generated steam only have value if they can be brought to a market. The National Council of Mayors has recognized the significance of this problem. The Council is developing an approach called "Economic Development and Resource Recovery." The Council advocates that communities seek industries or facilities that can use materials or steam generated from municipal waste handling systems. Communities then have secure markets for products from source separation systems and energy-recovery incinerators.

Efforts are also under way to persuade companies that use reclaimed materials to locate in Michigan. For example, the Resource Recovery Division is assisting the New York-based Garden State Paper Company investigate the possibility of building a new plant in Michigan. Garden State uses reclaimed newspaper as its primary raw material in the making of new paper products.

Affordable solutions to waste disposal problems are available. Yet they will not be sought unless the cheaper, environmentally destructive approaches are stopped. The state must insist that local governments implement plans to handle their waste. With adequate enforcement of present laws, Michigan can make sure it's not caught down in the dumps.

## Updates & Notices

Fuller Road hearing date postponed: In the last issue of *ECOLOGY REPORTS*, we stated that the City of Ann Arbor Engineering Department would hold a public hearing on pro-

### Center Calls for Volunteer Assistance

Unexpected funding cuts in the Ann Arbor CETA program will mean the departure of two Ecology Center staff people, Marge Bruchac and Jim Frey, within the next two months. Marge and Jim have played crucial roles in Center activities, and we'll miss them badly.

The staff reduction will significantly impact both Center programs and the workloads of the remaining four staff persons. To minimize these impacts, the Center is extending an open invitation to members who may wish to contribute their time and skills to volunteer activities. We feel that volunteering can be a valuable and satisfying experience, both in terms of making contributions to the Center's environmental work and fostering new acquaintances and friendships.

Jim will be leaving on April 18th and Marge on May 16th, so please do not hesitate to call or stop by the Center to explore volunteer possibilities.

posals for widening and possible realignment of Fuller Road "probably in mid to late March." However, preparation of a document outlining environmental impacts of two road construction alternatives is now about three months behind schedule, and the public hearing date has been postponed as a result. City officials now expect it to be held in mid to late May at the earliest. Watch for further news about this important hearing in *ECOLOGY REPORTS* and the Ann Arbor News.

Congratulations to John Edgren: John Edgren, assistant professor of economics at Eastern Michigan University and long-time Ecology Center volunteer, has been appointed by Governor William Milliken to the new Department of Natural Resources Environmental Protection Policy Advisory Committee. The twelve member committee with statewide citizen representation will advise DNR Director Dr. Howard Tanner and Governor Milliken on state environmental protection policies. According to Dr. Tanner, water quality, air quality, toxic substance and solid waste issues will be given attention by the committee.

John has previously served on the ad hoc Mayor's Solid Waste Committee and has been involved in review of the state Solid Waste Plan. We feel John's commitment to environmental protection makes him a worthwhile addition to the DNR advisory committee, and we wish him the best in this new endeavor.

Ecology Center Board officers elected: At the February 27th meeting of the Ecology Center Board of Directors, four Board members were elected to one-year terms as Board officers. The new officers are: Ulrich Stoll - President; Peggy Gerber - Vice President; Laurie Kanther - Secretary; and Ann Hunt - Treasurer. We thank these officers and our other Board members for their ongoing work on Center issues and programs.

Live rent-free at Friends Lake: The Friends Lake Community in Chelsea is seeking applicants (a single person or couple) for the position of winter caretaker to live in a lakefront log cabin from Labor Day to Memorial Day. For a detailed information sheet about the responsibilities of the position, contact Bob Blood (2005 Penncraft Court, Ann Arbor, MI 48103, phone: 313/769-0046) before May 15th.

## Calendar:

Thursday, April 10: Ann Arbor Alliance of Neighborhoods meeting, 7:30 PM in the second floor meeting room of the Fire Station across from City Hall.

Saturday, April 12 and Sunday, April 13: PIRGIM alternative energy conference, 9 AM to 5 PM each day at the Michigan Union. Call 662-6597 for details.

Thursday, April 17: Big Business Day, in support of decentralization and worker control. Call 668-0425 for information.

Thursday, April 17: Citizens Association for Area Planning monthly meeting, 7:30 PM at the Ecology Center.

Tuesday, April 22: Earth Day fair, Main Street in downtown Ann Arbor (see front page article for details).

Friday, April 25: Open house and birthday celebration at the Ecology Center from 3 to 6 PM.

(continued)