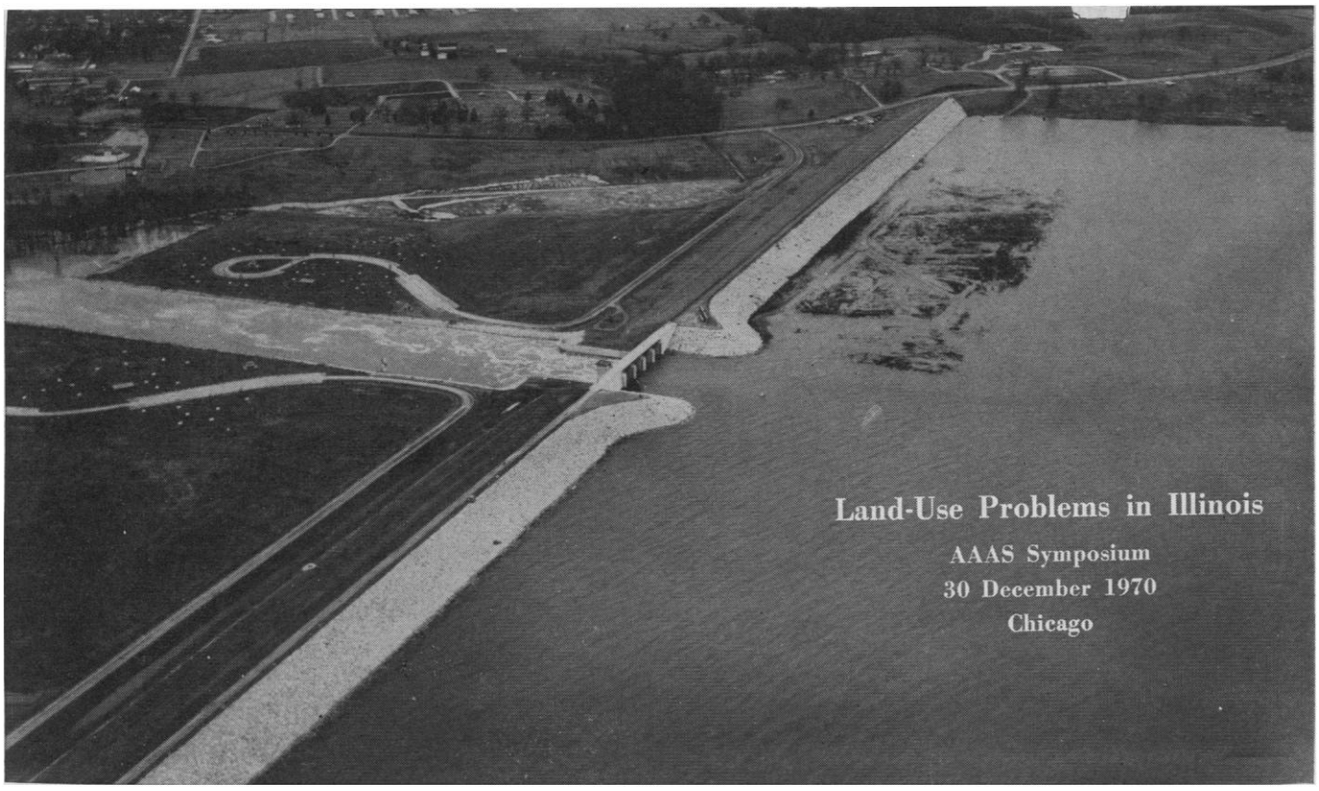


The patterns of society and economy today foster land-use conflicts. The population is growing rapidly. A larger ratio of the population is congregating in urban and suburban complexes. The demand for man's necessities and comforts for an affluent society creates the need for ever-increasing production of foodstuffs, materials, and energy. A highly mobile society energetically intent on recreation assaults our nearby playgrounds and the farthest reaches of our open spaces. When these patterns are combined with a heritage of personal freedom, conflicts in the use of land are inevitable.

Furthermore, man, by building, manufacturing, mining, and farming, willfully or unwittingly brings about massive changes—many of them impairments—in his physical environment. These activities affect his fellow man and heighten conflict. Land uses that have deleterious side effects have always aroused the opposition of neighboring property owners, but today large segments of the general public are becoming concerned with certain land uses or practices detrimental to environmental quality. Sometimes this concern is expressed as wrath that may force precipitous action rather than a long-range solution.

The solution to land-use conflict presumably should come as a result of fact-finding, planning, and management. Many of the planning agencies today perform only the first two functions and have no effective means of proceeding from a plan to its implementation. Some of the large government agencies such as the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the Soil Conservation Service have, in addition to planning functions, specific responsibilities in implementing land and water development and conservation programs. The trend toward broadening the scope of their programs has not always resulted in the gratification of greater portions of society, and conflicts over many of the projects of these agencies are still common.

Much planning is concerned with metropolitan areas and services that are required for concentrations of people and industry, but still conflicts arise when subdivisions "willy-nilly" overrun choice farmland, when suburbanites are annoyed by local gravel or quarrying operations, or when cities are alarmed by the construction of a nearby nuclear power station.

Industry commonly adds to the land-use problems of the metropolitan area because it plans with goals that do not mesh with all the interests of society. To yield profit, industry must produce efficiently and maintain an uninterrupted flow of goods to the consumer. Efficiency sometimes results in the expedient venting of wastes at the factory site, to the detriment of the environment. Today's type of production leads to a further problem at the delivery point—the generation of solid waste. The technology of packaging and delivering "consumer" goods is highly advanced; yet the technology of collecting used or waste products and returning them to disposal points—enormous tasks in our large cities—is very primitive.

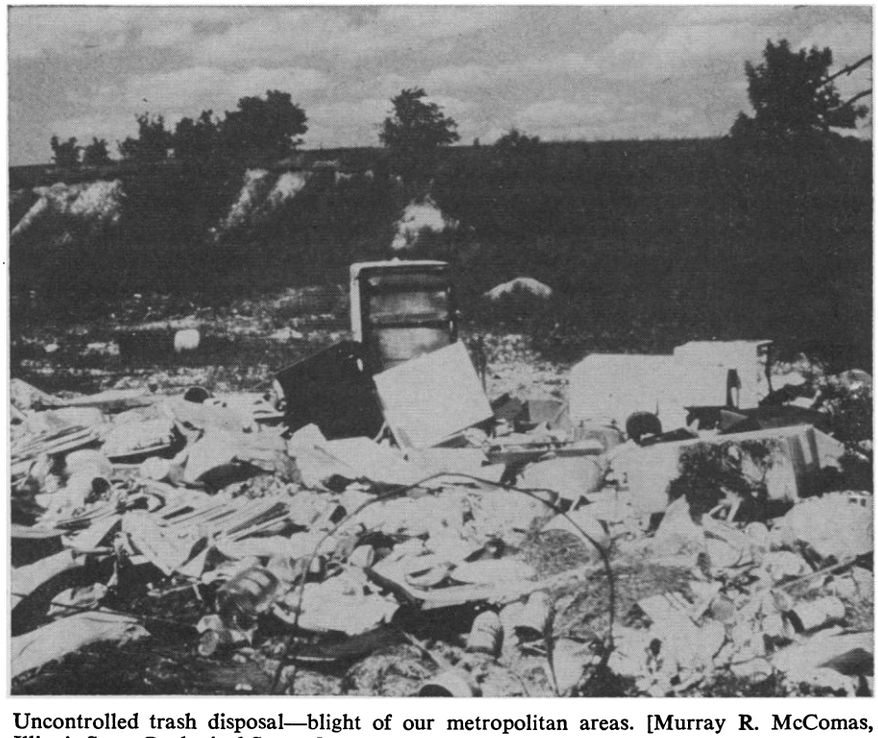
The disposal of solid waste is a land-use problem inasmuch as a common practice today is to truck the waste into convenient places at the fringes of our cities, usually to the dismay of neighboring property owners. Some cities have more enlightened projects to sequester the solid waste under favorable natural conditions or engineered controls, sometimes with reclamation or sequential-use benefits, but basically the state of solid-refuse disposal today is one of improvisation rather than thoughtful management.

Away from the cities, land uses of the open spaces—agriculture and mining—are beset with a number of old problems but are also under new attack by environmentalists. For example, agriculture comes in conflict with surface mining, highway construction, reservoirs, and cities and is also being berated for increasing nitrates and phosphates in our water sources and certain chemicals in our foods. Yet agricultural specialists claim that food production for an expanding population probably will require the most advanced crop-producing technology and that a return

(Above) Carlyle Dam and Reservoir, Illinois, a U.S. Army Corps of Engineers multiple-purpose project. [U.S. Army Corps of Engineers]

The city enroaches on the countryside with row-on-row efficiency. [Donald L. Walker, University of Illinois]

Unleveled spoil piles resulting from surface mining of coal in Illinois—a case for reclamation. [David L. Reinertsen, Illinois State Geological Survey]



Uncontrolled trash disposal—blight of our metropolitan areas. [Murray R. McComas, Illinois State Geological Survey]

to a less sophisticated technology, with fewer chemicals, would require an increase in acres needed to produce food, with consequent utilization of the more marginal lands.

Surface mining of minerals brings on a rash of conflicts. In Illinois the mining of coal, rock, and sand and gravel has raised complaints of noise, dust, heavy vehicle movement, ravaging of land, and impairment of environmental amenities. In many urban areas, the common reaction to surface mining is to prohibit it or to restrict it by zoning ordinances. In rural areas, it competes with agriculture for land on the basis of dollar return to the landowner.

As a result of legislation and regulation and the mining companies' interest in leaving a usable landscape rather than a wasteland after mining, there has been progress in mining methods and in the reclamation of mining lands for other purposes such as recreation, farming, industrial parks, subdivisions, and controlled solid-waste disposal. Carefully planned and controlled development of mineral resources rather than arbitrary prohibition or restriction of mining is a more logical policy for the future inasmuch as mineral resources are finite in quantity and limited in distribution.

Illinois provides an appropriate setting for illustrating these problems. It is an agricultural as well as a manufacturing state, it has a substantial mining industry; its downstate prairies create some special problems in the development of water resources; and it contains the metropolitan giant of Chicago, situated on one of the Great Lakes. Furthermore, it has experienced widespread public dissatisfaction with the state of its environment, with the result that this year it combined the functions of several previously existing state agencies to form a new Environmental Protection Agency and created a full-time Pollution Control Board.

Problems related to agriculture, the expanding city, the Oakley Reservoir, solid-waste disposal, and coal surface mining will be discussed at a half-day symposium to be held 30 December at the AAAS meeting in Chicago. The symposium will be sponsored by the Section on Geology and Geography of the American Association for the Advancement of Science and by the Geological Society of America.

ROBERT E. BERGSTROM
Illinois State Geological Survey
Urbana, Illinois 61801