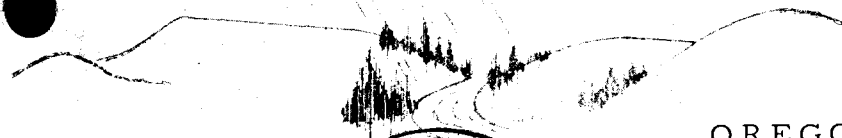


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REPLACEMENT

# Oregon's Environment



OREGON STATE UNIVERSITY  
*Water Resources Research Institute*  
February 1971



Number 3

## LAND AND WATER RESOURCES PLANNING

Both the Executive and Legislative branches of government in the nation's capital are addressing themselves to the important matter of proper land use.

The 92nd Congress is expected to give major attention to a bill which seeks to provide for a national land use policy by broadening the authority of the Water Resources Council and River Basin Commissions. It would also provide financial assistance for statewide land use planning. The proposed legislation (S. 3354) was sponsored by Sen. Henry M. Jackson in the closing days of the last Congress. A spokesman for the Senate Interior Committee said that revisions of the original bill are being prepared for re-introduction this year.

Briefly, the objective is to make available to the states grants-in-aid to draw up comprehensive planning and zoning. Some of the features of the original bill were: (1) authorization for inclusion of cities within a state's land use planning program; (2) allowance of five years rather than three years for states to develop plans; (3) specific allowances for states to set planning priorities with respect to geographical areas and functional uses; (4) express permission for states to delegate certain land use planning and management functions; and (5) adoption and use of restrictions upon the Council's authority to disapprove statewide plans.

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### NATURAL RESOURCES ECONOMICS INSTITUTE

Oregon State University  
June 21 - July 16, 1971

President Nixon's advisers have also been working on a program. The environmental proposals which he sent to Congress on February 8 called for adoption of a national land use policy, which would lean heavily on the authority of state governments to regulate critical uses of land. As things now stand in Oregon, the main emphasis on land use planning is in the hands of the counties.

Purpose of the series of courses and workshops is to stimulate breadth and depth in the understanding of economic problems in natural resource management.

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Domestic needs for electric power have been doubling about every ten years. To meet these power requirements, government and industry are vigorously investigating and rapidly developing new sources of energy. Among possible new sources, atomic energy probably has the largest potential, but geothermal energy may prove to be important in many areas. (USGS quote)

Content is designed to be of benefit to both economists and non-economists. The workshops are planned to play an integrative role in bringing together public resource managers, industry decision-makers, and scientists from the various disciplines.

Fee for participation is \$160. Graduate credit may be obtained for work completed. For further details contact Dr. Joe B. Stevens, Dept. of Agricultural Economics, Oregon State University.

## NEW PERMIT REGULATIONS FOR INDUSTRIAL DISCHARGE

On December 23, 1970, President Nixon issued an Executive Order which requires that all industries discharging effluent into public waterways must observe stricter regulations which make a permit mandatory. The new regulations are based on the Refuse Act of 1899 which prohibits the discharge of materials into any waters, except under permit from the Army Corps of Engineers. Up until now, the requirement for industry to obtain a permit had been unspecified, and few permits had been issued. The Refuse Act had been narrowly interpreted by the Corps over the years as applying only to discharge which might impede navigation.

Although Oregon already has a permit system in operation, both the Corps and the Department of Environmental Quality (DEQ) face the task of determining future procedures. Further guidelines, recently received from the new federal Environmental Protection Agency (EPA), are now under study.

All industries are now required, when applying for a permit, to submit a detailed account of the exact nature and quantity of their discharges. The Corps will forward the application to the DEQ for certification and then to the EPA for final certification. There is considerable question as to the precise role each agency will play - given the limitations of manpower and the enforcement problem.

Prior to the Executive Order, there has been controversy in the federal government regarding the best approach to the problem. The Corps wanted a comprehensive permit system under the Refuse Act and the Justice Department wanted to rely on more recent laws to curb water pollution - legislation which relies principally on the states. What has resulted is a mixture of the two.

It is generally conceded that the new permit program is aimed at states where there is virtually no enforcement of water quality standards. State regulatory boards will be required to determine these standards. In states like Oregon, where machinery already exists for maintaining water quality, there is some controversy in Congressional and state circles regarding the new provisions.

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### WATER QUALITY STANDARDS

An article in the June 1970 issue of Water Resources Research, entitled "BOD Mass Balance and Water Quality Standards", calls attention to research conducted by Rutgers University on New Jersey streams. The project was designed to determine the relationship between water pollution and population and economic growth in rapidly urbanizing areas.

It was concluded that "to establish appropriate water quality controls, the magnitude of the gross pollution load of a basin should be known. Usually it is not. Mathematical modeling of basin-wide BOD relationships can be greatly facilitated by applying known equations on a basis of BOD mass loading rather than of BOD concentration. The necessary hydrologic basis includes travel time dye tests, data as to slopes and distances, and computation of travel times for all parts of the basin at various stages.

"Treatment plant and instream BOD records are essential. The basic BOD removal parameter must be computed and adjusted for different conditions. The remaining computations require a computer but are not especially difficult. The principal reservation as to accuracy of the results consists of the allowance that must be made for nitrogenous BOD.

"Applications of this method to three New Jersey basins indicate that in each case the recorded BOD data from treatment plants account for less than half the total pollution loading entering the stream. The policy implication is that it is inappropriate to plan water quality standards and programs of corrective measures on the assumption that recorded effluents constitute the only major source of pollution."

CONFERENCE ON ESTUARIES

March 19-20

These two days at OSU will be of interest to those concerned about our estuaries. Speakers are coming to campus from other states and from British Columbia.

This conference is for the exchange of information on the technical problems and solutions facing engineers and scientists who deal with estuaries. Uses, or abuses, of the estuaries of the Pacific Northwest are increasing rapidly and in some case, in Oregon at least, a veritable crisis exists. This was recently described in the report "Crisis in Oregon Estuaries" by the Oregon State University Marine Advisory Program. The rapidly growing demand for energy and the spiraling population growth in the Pacific Northwest have created demands for more intensive development of the region's estuaries.

In order that development can proceed without destruction of this valuable resource, the people involved in the development and preservation of estuaries must have improved knowledge of the physical problems and workable solutions. This conference is to serve as a forum for presenting sound, possible, and practical solutions to questions concerning Pacific Northwest estuaries. Further information from Dr. Larry Slotta, Department of Civil Engineering, OSU.

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POLLUTION IS TOP PROBLEM

HIGHWAY DESIGN

Pollution is considered the most serious problem in American communities, according to a poll conducted nation-wide last November by a reputable firm. As a matter of fact it is ranked above crime as a prime concern.

A total 34% of those responding (out of a total of 3,040 polled) named pollution of various kinds; 25% mentioned crime; 14% drugs; 12% schools; 11% housing and transportation; 10% employment and taxes; 9% youth problems; 24% others. The percentage totals more than 100% because respondents were asked to name more than one problem.

Of those living in urban areas, 46% are "very willing to accept some personal restriction" on what they can and cannot do to solve pollution problems; 40% are "very willing" to join a citizens group; 52% would write letters.

Nearly half (48%) of the public felt that television could have a "major influence in bringing about effectual solutions to these problems."

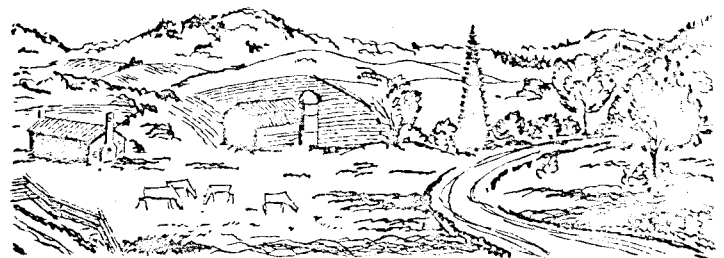
These findings were part of a more extensive poll, which showed that where air and water pollution are concerned most Americans (72%) believe government must become involved to solve the problem.

To those of you interested in the factors to be considered in planning highways so as to protect the environment, a new book on the subject is available from the Department of Transportation. The 92-page publication, entitled "Highway Environment Reference Book", details some of the methods used by engineers to blend roads into natural settings.

There are chapters on planning location, design and construction, joint development and multiple use, air and water quality, noise abatement, relocation assistance, beautification, and research and development. Several appendices contain, among other things, pertinent laws and listings of technical reports.

Copies are available from the Federal Highway Administration, Department of Transportation, 400 Seventh Street, S.W., Washington, D.C. 20591.

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### SOIL EROSION AND SEDIMENTATION

Sediment, in terms of sheer volume, ranks above domestic sewage, industrial wastes and chemicals as a major cause of water pollution, according to a report published by the FWQA. The report states that the annual sediment deposits in the nation's reservoirs pre-empt water storage capacity sufficient to provide an annual water supply for 5,500,000 people.

The report, including recommendations and conclusions, is presented in three major parts: a state-of-the-art, the "Community Action Guidebook for Soil Erosion and Sediment Control", and research needs. The "state-of-the-art" is designed to introduce the present state of development of non-agricultural soil erosion and sediment control.

The action guidebook is largely non-technical in nature, prepared from an overall policy-making point of view and designed around the concept that it would be a guide for realistic erosion and sediment control programs at the local and community level. It discusses state and local enabling legislation requirements; the role of the federal government; the role of state governments and regional agencies; and the elements of a viable erosion and sediment control program, including: planning, organization, staffing, financing, financial and technical assistance, operations, and public acceptance and support.

Establishing control over urban and suburban sedimentation problems was found to require the involvement of several local groups and agencies. The theoretical approach used in the guidebook involves two basic concepts -- definition of the geographical scope of the problem in terms of drainage or sub-drainage areas; and secondly, the task force management concept. (From "Urban Soil Erosion and Sediment Control", by the National Association of Counties Research Foundation for the U. S. Department of the Interior. Available from Superintendent of Documents, price \$1.)