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# Oregon's Environment

OREGON STATE UNIVERSITY

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## EARTH WEEK, April 24 - May 2

Governor Straub has sent the following message to Oregon educators regarding Earth Week:

"The theme for Oregon Earth Week this year is "Oregon's Waterways". For several months the Earth Week Task Force, composed of Oregon youth groups, school districts, local parks departments and State and Federal agencies, have been working on curriculum materials and activities focusing on Oregon's lakes, bays, rivers and streams.

"The purpose of Earth Week '76 - Oregon's Waterways - is to raise the attention of Oregon young people to the importance of our waterways, and to provide them with learning experiences and background information so that they can understand more about Oregon's valuable natural resources. In Eugene, with the help of the Lane County Parks Department, the community will concentrate on Amazon Creek and the Willamette Greenway. Bend area Boy Scouts and Girl Scouts are planning a clean up day along the Deschutes River. In the Portland area, activities are being planned for Johnson Creek and Tryon Creek. The Willamette Valley District Council of Campfire Girls has prepared and distributed 600 Earth Week Activity Programs for use by the 5,000 girls in that district.

"Saturday, April 24, is the opening of Oregon's trout season. On that weekend, tens of thousands of Oregonians will be hiking to our streams and rivers to test their skills. That will be an appropriate time to remind Oregonians about the need to protect our waterways.

"On April 25, at 10:00 a.m. KATU, Channel 2, ABC, Portland will broadcast a show with me being interviewed by thirty Portland young people. Excerpts of that interview will be used on news shows during the week.

"So there is plenty of activity. But the most important aspect is the educational experience that can come in the classroom use of the curriculum materials developed by the Earth Week Task Force. I hope you will choose to participate."

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When rain falls on poor watersheds or bare ground it seals the surface pores and compacts the soil. If water cannot percolate into the soil, it runs off the surface and into the streams. In the process, valuable top soil is often washed away.

## EFFLUENT GROWS FISH

A public utility company in Texas is using the warm water discharge from its power plant to grow catfish. The Texas Electric Service Company at Lake Colorado City in west Texas has a steam-electric generating station which circulates large quantities of water for cooling purposes. The warm water is returned to the lake through a special canal, unchanged except for added heat and increased oxygen--both assets to catfish culture. On its return to the lake, it mixes with the colder lake water and is cooled before re-entering the plant in a continuous cycle.

While the water is in the canal, temperatures will be 15 to 20° F above the lake temperature and in a good range for catfish production during fall, winter and spring. During the aquaculture planning phase, the possibility of pumping the warm water from the canal through a series of small ponds was studied, but high pumping costs and losing the advantage of the free flow of water were considered disadvantages. Instead, the researchers opted for the method of raising fish in cages as the Asians have done for years. Where the canal widens into a pond about 5 acres and the current is reduced, circular cages 47" in diameter and 36" deep float. An electrically driven barge is used for feeding, inspection and harvesting of fish.

By using the heated canal the operation has several advantages: 1) Water temperature can be maintained at a range to give optimum growth and eliminate seasonality in production. Channel catfish do best at about 85 to 86° F. Using plant heat discharge permits the fish farmer operating without supplemental heat. (Heat cannot economically be added to open ponds because of cost.) As a result, profit can be made on a year-round operation instead of 6-7 months, the usual growing season. 2) Pumping costs can be reduced. Because

the plant moves large quantities of water (100,000 to 500,000 gallons per minute), pumping costs can be reduced significantly. 3) The large volume and flow of water results in waste removal and in maintaining the desired dissolved oxygen concentration in the water--both of vital importance where there is a high density fish population.

(From newsletter Vol. 1, No. 11, dated November 1975, Texas Water Resources Institute, Texas A&M University, College Station, Texas 77843.)

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## POLLUTION FROM RUNOFF

Non-point sources of water pollution are of great concern to the soil and water conservation districts of Oregon. The federal Water Quality Act Amendments of 1972 (PL 92-500) require the EPA to assist states in developing water quality management plans and implementation programs. Section 208 of the Act states that these plans must consider both point source and non-point source pollution.

Water running off of fields, pastures, timber lands, and other rural lands does carry large amounts of pollutants to the waterways. These pollutants include sediment, organic matter, pesticides, fertilizers and other materials present on the soil surface.

EPA recognizes that the most practical control for non-point source pollution is the installation of good conservation practices on the land which help to prevent erosion. These practices are identified as Best Management Practices (BMP's) and have been taken from SCS Technical Guides with the cooperation of SCS personnel.

Section 208 planning will require a systematic evaluation of the non-point sources of pollution, the identification of BMP's to control that pollution source and development of strategies and institutional arrangement to get these BMP's installed where they are needed. (From the March 1976 newsletter of the Oregon Assn. of Conservation Districts & St. Soil & Water Conservation Com.)

## QUALITY OF LIFE IS MEASURED

The "quality of life" in the United States, measured by seven environmental yardsticks, continued on a downward trend in 1975 for the sixth consecutive year, according to the National Wildlife Federation.

The environment suffered setbacks in five of the seven "vital resource areas" surveyed in the conservation organization's seventh annual Environmental Quality (EQ) Index report, published in the current (February-March) issue of *National Wildlife* magazine. It moved ahead in only one area - air quality - and held its own in another, timber resources, while falling behind in water quality, soil, wildlife, minerals and living space, the survey found.

These trends produced a National EQ Index of 350 on a scale where 700 would represent the best possible environment. This is a drop of six points from the 1974 mark and is 45 points below the National EQ Index for 1969, the first year of the NWF survey. All seven indicators have declined since the first survey reported: "America is in trouble . . . Apathy is our biggest problem."

"It would be nice to report in this year of the American Bicentennial that the quality of life in the United States is quickly on the mend . . . (but) unfortunately, such is not the case," *National Wildlife* said. As one of the few encouraging signs in a "generally somber picture" the magazine cited the fact that "polls still show undiminished public support for environmental goals."

The EQ Index, based in part upon statistics and in part upon the "combined judgment" of NWF experts, has been commended by government officials as a unique, authoritative journalistic evaluation of the "quality of life." It is prepared each year as a special report to Associate Members of the NWF.

Single copies of the 12-page report, reprinted from the current issue of *National Wildlife*, can be obtained free of charge by writing to Educational Services, National Wildlife Federation, 1412 16th St. N.W., Washington, DC 20036. Additional copies, up to 100, are priced at 25 cents each, and in quantities over 100 at 15 cents each.

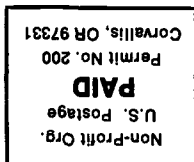
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## ENVIRONMENTAL IMPACT ASSESSMENT

A task force assembled by the Extension Service at Oregon State University is busily engaged in a study and field activities designed to improve local participation and decision making in projects planned for any local area. The overall purposes of the research are to provide useful, practical information and expertise for planning purposes; to develop models, techniques, and concepts which could be applied generally; and to bring citizen thoughts and recommendations into the planning process.

An Environmental Impact Assessment Handbook is nearing completion. An assessment form and manual is complete in draft form and is currently being used in conjunction with three demonstration projects. The concepts formed thus far are being evaluated in their direct application to a large scale timber management plan which affects 8 counties along the coast. This involves working with the Siuslaw National Forest staff. The second project under examination is a highway plan which includes eleven (11) or more alternatives to a central business district  
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by-pass for Corvallis. This is a coordinated effort of impact assessment with the State Highway Division. The third project is sponsored by a Soil and Water Conservation District in Lakeview and it consists of two proposed reservoir sites, one stream diversion, and non-structural land treatment measures.

This practical application of draft guidelines will serve to test their validity and lead to an improved final version. Other efforts of the task force are directed to formulating environmental impact evaluation criteria, appraising various information management systems, and developing an extension educational program. The task force leader is Dr. James R. Pease, land resource management specialist in the Extension Service.

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#### RIVER QUALITY STUDY

An intensive river quality evaluation of the Willamette River basin is now being conducted by the U. S. Geological Survey, P. O. Box 3202, Portland, Oregon 97208. Basically, the study is looking at four objectives; 1) definition of a practical framework for instituting comprehensive river quality assessments, 2) development of methods for evaluating alternatives to planned development in terms of possible impacts on river quality, 3) determination of the data required to assess adequately various types of river quality problems, and 4) application of the framework, data, and methods to assess the current or potential river quality problems in the Willamette basin.