OREGON'S WATER RESOURCES RESEARCH INSTITUTE

WATER NOTE

1983-2

Water Resources Research Institute
Oregon State University
Corvallis, Oregon 97331
(503) 754-4022

FLOODPLAIN REGULATIONS AND RESIDENTIAL LAND VALUES IN THE WILLAMETTE VALLEY

RESEARCH PROBLEM

Continuing encroachment of intensive land uses onto flood-prone lands is the principal cause of burgeoning flood losses. An important part of floodplain management is the implementation of land use regulations in flood-prone areas. Ambiguities exist about the relationship between floodplain regulations and residential land values. Some claim that floodplain regulations negatively affect property values and also reduce the tax bases of regulated communities. Others see such regulations as essential to nonstructural flood protection. Clarification of this uncertain relationship could improve efforts at flood damage mitigation, whereby a balance is sought among structural and non-structural methods for reducing the impacts of flood damage.

SCOPE OF RESEARCH

This research investigated the impacts of floodplain regulations on residential land values in western Oregon. It was hypothesized that the mean rates of appreciation for regulated lands would be significantly less than appreciation rates for similar, proximate, unregulated lots. Six study areas in the Willamette Valley were used to test the hypothesis. These areas included flood-prone areas along the Willamette River and several tributary creeks. Land values were used rather than property values to eliminate differences in housing characteristics. Tax assessor records were used. Oregon statutes have required since 1968 that assessments be at 100 percent of true cash value. These closely approximate market values.

RESEARCH FINDINGS

Tentative Conclusions

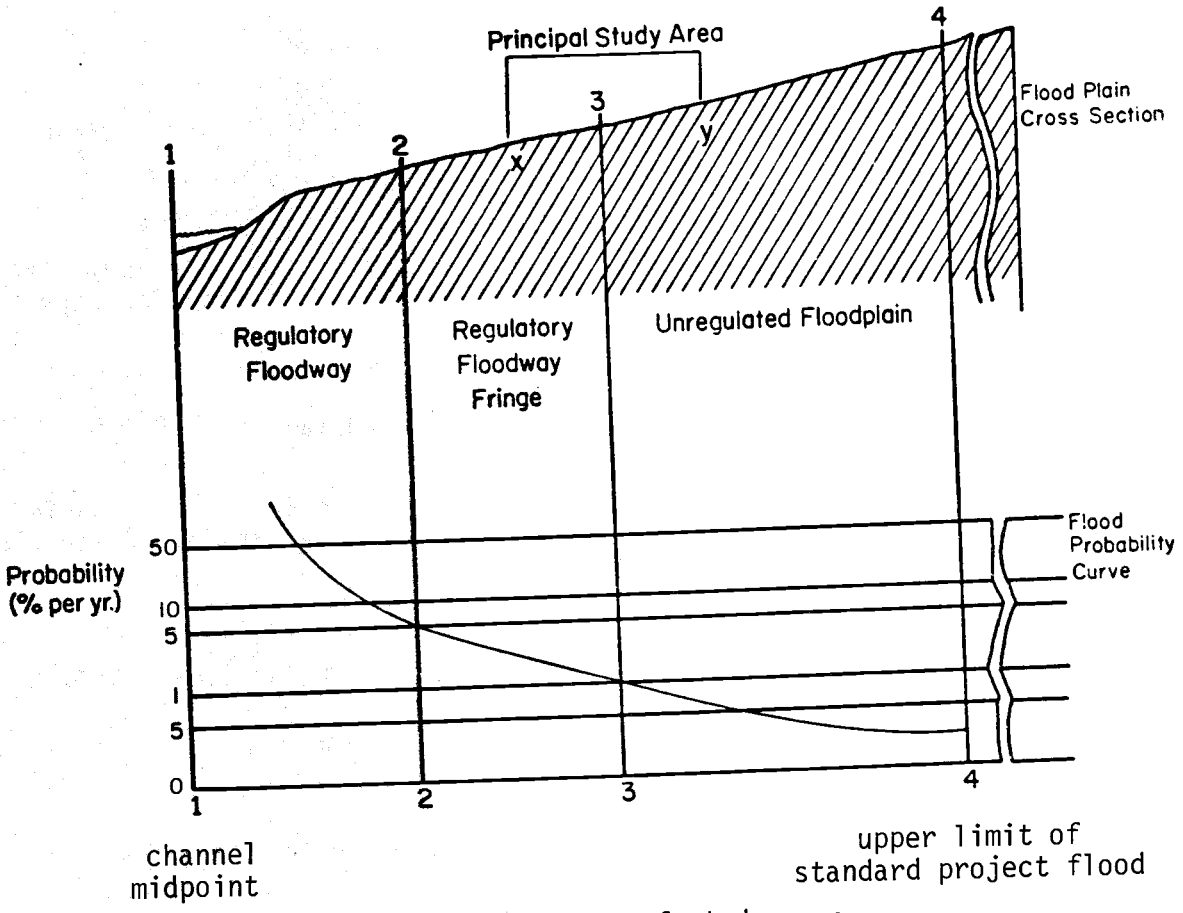
The study hypothesis that floodplain regulations significantly depress mean appreciation rates of residential land values relative to those of similar unregulated lots was rejected in most cases. In those instances where it was accepted, flood damage rather than floodplain regulations appeared to be the cause. The converse of the hypothesis was often found to occur, with regulated parcels appreciating significantly more rapidly than their unregulated counterparts. It was concluded that this probably reflects the amenity values of waterfront properties and also the markedly improved water quality of the Willamette River over recent years. Thus, most of the evidence from the six study areas suggests that floodplain regulations have not had a significant dampening effect on residential land values.

Final conclusions about the relationship between floodplain regulations and residential land values would be premature at this juncture, because the research could not be carried out under ideal conditions. Three main difficulties arose. First, considerable residential development had taken place in some of the study areas prior to the implementation of floodplain regulations, reducing the potential impact of the regulations. Under those circumstances, one might question whether possible negative aspects of land use regulations are outweighed by the positive attributes of floodplain insurance available under the National Flood Insurance Program concurrent with the implementation of regulations. Second, in most of the study areas, floodplain regulations were in the emergency phase during most or all of the study periods used. This means that regulations were less stringent and, therefore, less likely to have an impact on property values than those of the regular program. Third, despite efforts by the Oregon Department of Revenue to insure uniformity of assessment procedures among counties, variances made it impossible to uniformly adjust for extraneous factors affecting land value appreciation rates.

Regulation and the Assessment Process

No clear-cut answers emerge from the study about how the assessment process may be affected by floodplain regulations. While the research did confirm documented relationships between floods and land values, identifying the relationship between floodplain regulations and land values proved much more elusive. Several relationships appear possible between floodplain regulations and assessed values, either singly or in combination: (a) the assessor's awareness of potential flooding is increased through promulgation of floodplain regulations; (b) the assessment is lowered because regulations presumably lower the ability of the owner to develop and/or sell the land (little evidence of this was found during the study); (c) the assessor bases the value of the property on sales of similar properties in the area, which may or may not be in regulated areas (in this case the assessor is either unaware of floodplain regulations or chooses to ignore them, both of which cause the regulations to not have an impact on assessed land values); (d) values of vacant, regulated lots are assessed without regard to regulations or flood potential; or (e) the assessed value of developed residential land is reduced due to the difficulty of selling such properties (this could also lower the assessment of unregulated lands if values are drawn from a general area without regard to regulation).

Cross Section of Hypothetical Study Area



2-4 Maximum extent of study area
x-3 Regulated parcels
3-y Control parcels

Comparison with Similar Studies

The tentative conclusions of this study--that floodplain regulations caused little if any negative impact on residential land values--generally agree with findings from other studies. Several supporting studies address the relation to land values of land use regulations to mitigate the adverse effects of various kinds of natural hazards, not just floods. The evidence in the Oregon study is also in partial agreement with other studies specifically dealing with the effect of floodplain regulations on land values. However, the conclusions of the Oregon research are at variance with parts or all of the findings of other studies. Therefore, comparing the tentative conclusions of the study in western Oregon with related work indicates that although relationships between land regulation and property values remain somewhat less than clear, much of the evidence suggests that, to the present, regulations have had little or no negative impact.

PROJECT DATA

Investigation Period: October 1, 1979 - December 31, 1981

Sponsors of Investigation:
U.S. Department of the Interior, Office of Water Research and Technology (Project A-054-ORE)
Water Resources Research Institute, Oregon State University

Investigation Team
Principal Investigator: Professor Keith W. Muckleston, OSU Geography Department
Graduate Students: Michael F. Turner and Richmond T. Brainerd (Geography)

REPORTS AVAILABLE FROM WRRI

WRRI-73. Floodplain Regulations and Residential Land Values in Oregon. 1981. 77+ pp. Cost $3.00

Other requests should identify specific reports desired and be accompanied by prepayment check, payable to Water Resources Research Institute. Price listed includes mailing (4th class) and handling charges.

Water Resources Research Institute
Oregon State University
Corvallis, Oregon 97331