

# **PUBLIC PARTICIPATION IN WILLAMETTE VALLEY ENVIRONMENTAL DECISIONS**

by Courtland Smith

Water Resources Research Institute  
Oregon State University  
Corvallis, Oregon 97331



WRI 15

**PUBLIC PARTICIPATION IN WILLAMETTE VALLEY  
ENVIRONMENTAL DECISIONS**

**Courtland L. Smith  
Department of Anthropology  
Oregon State University**

*B-823*  
**Water Resources Research Institute  
Oregon State University  
Corvallis, Oregon**

**WRI-15**

**April 1973**

## ABSTRACT

With Earth Day, April 22, 1970, a new group of protagonists emerged as spokesmen for the environment. These environmentalists were committed to limiting natural resource degradation and promoting enhancement of the human environment. The emergence of environmentalist groups was a response to loss of contact between interested publics and governmental planning and development agencies.

In the Willamette Valley of Oregon, the results of a seven year environmental planning study were announced one month after Earth Day. Environmentalists criticized the study findings by such resource development agencies as the Corps of Engineers, Bureau of Reclamation, and Soil Conservation Service as serving only the self-interests of these agencies and not meeting the needs of valley citizens.

In the summer of 1969 the water quality of the Willamette River reached a level suitable for most human and wildlife uses for the first time in nearly 60 years. This water quality enhancement program had been undertaken 30 years earlier when those closely associated with the river were successful in arousing public interest in the deteriorated quality of the river.

These two events in the Willamette Valley were not attributable to the urban oriented environmentalists. They were the result of over 30 years of deliberation, debate, and decisions worked out in accordance with the broad variety of self-interests which prevailed among Willamette Valley citizens. Self-interest, energized by emotional commitment, was a critical element as groups argued one side or the other of such dilemmas as growth and no growth, management of the environment by man and management by nature, diversity and similarity of actions, elitism and broad participation in decision-making, centralization and decentralization of authority, and generalization and specialization of interests.

Self-interest groups, accepting various horns of these dilemmas, deliberated, debated, and influenced decisions. The self-interest groups learned to lobby, use the media, and compete for constituencies. These privateers of the public process acted based on self-interest. They were energized by emotional commitment to change ideas about environmental quality, about growth, and about relations between people. Self-interest energized by emotional commitment was a critical element in the process by which Willamette Valley citizens adapted to their environment.

## ACKNOWLEDGMENTS

This research was conducted as part of the project "Socio-Cultural Systems in Willamette Water Resource Development," Courtland L. Smith and Thomas C. Hogg, principal investigators. Funding was provided by the U. S. Department of the Interior, Office of Water Resources Research, as authorized by the Water Resources Research Act of 1964.

Ronald A. Hart, Ben Adams Moore, III, Mary Oman, Arthur C. Rathburn, Micheal J. Reagan, and Carol Stoehr were student research assistants who aided in data acquisition, analysis, and reporting. Specific reference is made to their contributions in the manuscript.

While I remain solely responsible for the contents of this manuscript, I have benefited from the comments of William H. Buckley, Thomas C. Hogg, W. Bruce Shepard, and John A. Young.

Cover design was by Judy Aiello. Typing and manuscript production was by Kathie Harvey.

## TABLE OF CONTENTS

	Page
ABSTRACT . . . . .	ii
LIST OF TABLES . . . . .	vi
LIST OF ILLUSTRATIONS . . . . .	vii
CHAPTER 1 PRIVATEERING AS A PUBLIC PROCESS . . . . .	1
Setting . . . . .	1
Adapting to One's Life Situation . . . . .	4
CHAPTER 2 NATURAL RESOURCE LEMMAS . . . . .	5
Lemma Clusters . . . . .	5
Content Analysis . . . . .	13
CHAPTER 3 INTERPRETING PUBLIC OPINION . . . . .	21
Population and Industrial Growth . . . . .	22
Environmental Problems and the Community as a Place to Live . . . . .	29
Research Dimensions . . . . .	37
Surveys and Applications . . . . .	40
CHAPTER 4 BASIN DEVELOPERS . . . . .	49
Public Involvement . . . . .	51
CHAPTER 5 MEETING BASIC WATER REQUIREMENTS . . . . .	81
Water Related Organizations . . . . .	82
Water Supply . . . . .	84
Waste Water Management . . . . .	90
Public Participation and Growth . . . . .	98
CHAPTER 6 INFLUENCING ACTION . . . . .	105
Settings . . . . .	105
Mechanisms . . . . .	114

CHAPTER 7	HUMAN RESOURCE LEMMAS . . . . .	125
	Diversity and Similarity . . . . .	125
	Who Should Decide? . . . . .	127
	Centralization and Decentralization . . . . .	128
	Elitism and Broad Participation . . . . .	129
	Specialization and Generalization . . . . .	133
CHAPTER 8	SELF-INTEREST IN ADAPTATION . . . . .	135
APPENDIX A	DATA BASE . . . . .	137
APPENDIX B	SURVEY ADEQUACY . . . . .	141
REFERENCES	. . . . .	143

## LIST OF TABLES

Table	Page
1. Population and Economic Growth . . . . .	14
2. Kind of Management . . . . .	15
3. Attitude Toward Construction . . . . .	16
4. Attitudes Toward Population and Industrial Growth Using Word Categories . . . . .	24
5. Attitudes Toward Population and Industrial Growth Using Indicator . . . . .	27
6. Yes, Environmental Issues . . . . .	29
7. Environmental Issues State . . . . .	32
8. Environmental Issues Community . . . . .	34
9. Community Attributes . . . . .	36
10. Thought About Solutions and Growth . . . . .	41
11. Public Hearings . . . . .	54
12. Scenic Waterways Status for South Santiam . . . . .	67
13. Participants Willamette Basin Task Force Study . . . . .	76
14. Water Managing Organizations . . . . .	85
15. Water Supply Organizations . . . . .	89
16. Waste Water Removal Organizations . . . . .	96
17. Lobbyists, 1971 Legislature . . . . .	116
18. Urbanites and Ideas About Environmental Quality . . . . .	132

## LIST OF ILLUSTRATIONS

Figure	Page
1. Willamette Valley Settings . . . . .	3
2. Communities Surveyed . . . . .	23
3. Indicators . . . . .	25
4. Research Dimensions . . . . .	39
5. Population Growth Histogram for 5, 10, and 15 Intervals . .	45
6. Climatic Patterns, Corvallis (C), Eugene (E), Portland (P), and Salem (S) . . . . .	52
7. Proposed Water Development Sites . . . . .	57
8. Portland Regional Water System . . . . .	87



## CHAPTER 1

### PRIVATEERING AS A PUBLIC PROCESS

The Willamette Valley of Oregon has been the setting for two major environmental modification programs begun in the late 1930's. One was the flood control program of the Corps of Engineers. The Corps in association with other water resource developers and local groups of citizens prepared and implemented a plan to control the valley's winter flood waters.

The second environmental modification program was designed to improve the quality of the Willamette River which was particularly poor during the summer low flow period (Gleason 1972). The water quality enhancement program was begun, by a vote of the people, in 1939 when, by initiative petition, they created the Oregon State Sanitary Authority.

My purpose is not to tell the success story of these programs. Instead my purpose is to indicate the kinds of public participation characteristic of each, to identify the settings for this participation, and to determine the factors which limited and stimulated public participation.

The people of the Willamette Valley in adapting to their environment were not characterized by continuous harmony and unanimity regarding environmental management. Quite often differences in philosophies, differences in procedure, and differences in problem identification arose and had to be worked out.

#### Setting

The Willamette Valley is an area of 11,032 square miles which drains northward into the Columbia River. On the west the valley is bounded by the Coast Range of mountains whose maximum height is 4,000 feet. The Cascades with several snow capped peaks over 10,000 feet form the eastern boundary. The 1970 population of the valley was 1,437,000. One hundred years earlier the valley population was just over 61,000.

The impacts of growth began to be felt in the valley after 1910. In the 60 year period between 1910 and 1970 the valley underwent many significant changes. Population increased three and one half times. Agricultural production increased over five fold. Navigation on the river declined in the face of growth in rail and motor transport. A half billion dollar flood control program was undertaken resulting in

the construction of 13 reservoirs situated on tributaries to the Willamette. Recreation expanded from something one did for fun to the state's third largest industry. Lumber and wood products, developed in the early 1900's, became the chief industry of the state. Banking, manufacturing, and government service expanded significantly.

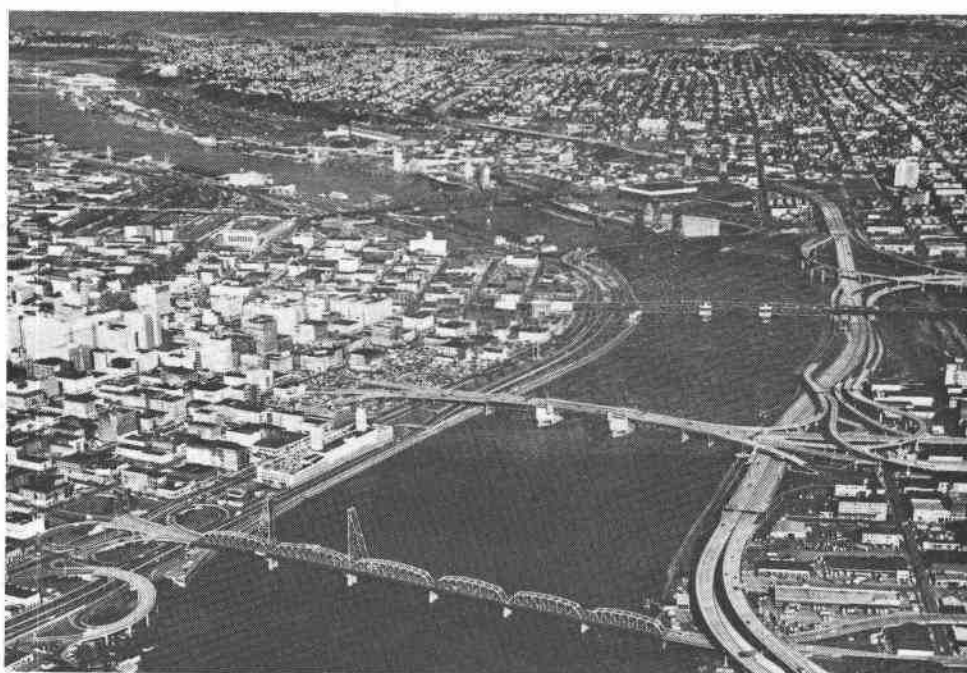
One of the costs of this growth has been decision-makers knowing less about the public's desires. This was primarily due to a decline in face-to-face contact between decision-makers and the people affected by their decisions. The environmental movement which fluoresced with Earth Day, April 22, 1970, was a symptom of the ineffectiveness of communication between decision-makers and the public.

The Willamette Valley was one setting in which environmentalist groups and environmental awareness flourished. The Oregon Environmental Council, an 1,800 member coalition of 75 conservationist groups was incorporated in December 1968. It lobbied for the first time in the 1969 session of the state legislature.

Business, industry, and labor groups reacted to the successes of the environmentalists in the legislature and elsewhere by forming their own coalition, the Western Environmental Trade Association, in November 1971. During the period 1969-71 there was considerable change taking place in the Willamette Valley as elsewhere regarding people's perceptions of their relation with the environment. Many of these changes were the result of new and expanded groups of people demanding and receiving access to the decision-making process.

What the groups seeking access to the decision-making process learned during 1969-71 were the settings and mechanisms for influencing action. They learned to lobby, develop public interest, and use the political system to their advantage. The lessons they learned, the organizational settings in which they worked, the organizations they confronted, and the lemmas to which they were committed are the subject matter of this monograph.

One set of lemmas, philosophies accepted as true, which served as a basis for influencing action were lemmas pertaining to natural resource management. A second set dealt with human resource problems. For both natural resource and human resource management, groups of people accepted various horns of several dilemmas. Decision-makers were faced with arbitrating a position somewhere between the extremes of unlimited growth versus no growth, man as a manager of the environment versus nature as the manager, diversity and similarity of actions and attitudes, centralization and decentralization of authority, elitism and broad participation in decision-making, and specialization and generalization of roles.



**Figure 1. Willamette Valley Settings**

### Adapting to One's Life Situation

One of the bases for influencing action as people adapted to their life situations was self-interest; thus, *privateering as a public process*. The people I observed, interviewed, and surveyed in the Willamette Valley did not appear to be acting in accordance with any consistent public interest or in accordance with any uniform standards about some generalized good. Rather they acted in accordance with their own self-interest. Those sharing similar self-interests joined together to obtain for themselves and their group those things which in their view would facilitate their life situation.

Individuals attempted to optimize their own personal advantage. Because of this behavior water quality in the Willamette River was improved, flood control programs were undertaken, and all the other activities related to the river were implemented not because these programs met a public mandate, but because these programs met the individual self-interests of a large number of Willamette Valley residents. Each of these self-interests in the most specific sense, in the most private sense, were unique to each individual.

My purpose in pursuing this point is that I think if planners, scientists, and policy makers, . . . if people, addressed themselves to the notion that privateering is a public process, a process requiring emotional commitment based on self-interest; perhaps they would plan, study, and proceed differently than they have. They would recognize more quickly the reasons for program failures and successes; they would better recognize the social benefits and costs of what they do; and they would better understand themselves and their culture. In so doing possibly each of us would be better able to adapt to the life situation we face.

## CHAPTER 2

### NATURAL RESOURCE LEMMAS

Lemmas are philosophical positions accepted by individuals and groups of individuals to be true. They are the ideas which people have about the nature of the universe, the environment, and society. Lemmas are the philosophic positions which explain for people how systems *should* operate. Because of different experiences, social position in society, innate physiological differences, and relations to the environment, lemmas are seldom universally accepted. This lack of universality necessitates a social process for working out the position of society at any given time.

When people observe similarities in the philosophic positions of others the tendency is to identify these positions with names, to stereotype people. Stereotyping is assigning people to categories based on very limited knowledge of their actions and attitudes. Sociologists studying race relations have identified many of the hazards of stereotyping.

Relative to natural resource management, many Willamette Valley residents identified such stereotypes as developmentalist, preservationist, conservationist, and environmentalist. These stereotypes were based on the way people viewed lemmas regarding growth and man's relation with the environment.

This was but one set of lemmas. Other lemmas (see Chapter 7) were related to human resource issues. For these the stereotyping of philosophic positions was not as explicit, although such dilemmas as diversity and similarity of actions and attitudes, centralization and decentralization of authority, elitism and broad participation in decision-making, and specialization and generalization of roles were philosophic positions that emerged as related to human resource lemmas which along with the natural resource lemmas had to be worked out by people participating in social action.

#### Lemma Clusters

Data about the actions and attitudes of individuals and organizations indicated that there were two philosophic clusters representing the *typical* views of people labeled as developmentalists, preservationists, conservationists, and environmentalists. The dimensions of these philosophic positions featured dilemmas over the malefits or benefits of population and economic growth; and dilemmas relating to who should

manage the environment, man's relation to nature, the quantity of natural resources available, and the best utilization of these resources. An interesting subdimension was the importance of a supernatural being in providing natural resources.

People identify the philosophic positions of others based on observation of people's actions, what people say, and what they write. These same kinds of data were used in constructing the developmentalist, preservationist, conservationist, and environmentalist stereotypes. The description which results from these data is an analytical construction of a stereotype, or what may be called an "ideal type," after Max Weber (Rogers 1969).

An ideal type is a generalized organization of people's attitudes, and thus, an ideal type cannot be expected to describe the attitudes of individuals. In fact, individuals confronted with labels of their philosophic positions, usually reject the description as being too superficial. Where the individual perceives that the stereotype of his philosophies may inhibit his actions in accordance with his self-interest, he is likely to modify his behavior. Thus environmentalists, very aware of their anti-developmental label, often identified their philosophic position as being closer to the more politically acceptable conservationist. The value of the ideal type construct is to identify the lemmas which structure action so that those wishing to bring about social change know the dilemmas which they must confront.

#### Developmentalist

Developmentalists were philosophically associated with a positive evaluation of growth. To the developmentalist planned growth enhanced the quality of life by providing for people adequate incomes and adequate resources to meet human needs. Development is dynamic. People experiencing dynamic change in which everyone can participate have the opportunity to gain personal strength.

One assumption of the developmentalist point of view is that growth is in large part dependent on proper utilization of water resources:

The maintenance of the present level of the economic and general welfare of the people of this state and the future growth and development of this state for the increased economic and general welfare of the people thereof are in large part dependent upon a proper utilization and control of the water resources of this state (ORS 536.220).

Usually population and economic growth are not separated, and most often population growth is used as an indicator of economic growth.

For man's relationship to nature, the developmentalist emphasizes maximum utilization of resources. To the developmentalist there are sufficient resources potentially available for man if there are adequate programs of exploration and sufficient research on utilization. Man is viewed as dominant over nature and is usually thought of as superior, having the capacity for reason and creative solutions to any problem. Most often the developmentalist, thinking of man as an animal is somewhat vulgar because such terminology reduces his uncontested supremacy over the environment.

The developmentalist philosophy was ascribed by people to the basin developers, the Corps of Engineers, Bureau of Reclamation, Soil Conservation Service, and supporting state and federal agencies. Business and industry, too, were ascribed with this philosophic position, along with the voluntary associations which carried out some of the goals of the business community. In the Willamette Valley labor leaders joined business in 1971 to form the Western Environmental Trade Association. Previously labor had been with an environmentalist group, the Oregon Environmental Council. They left the council because it opposed certain aspects of the Trojan nuclear power plant.

Members of such organizations as the Corps, Bureau, Soil Conservation Service, business, and industry were environmentally oriented, many even belonging to conservationist and preservationist groups. For these individuals the stereotype imposed upon them was particularly aggravating. Very often their actions were limited because of the stereotype; in other cases they participated as the *insiders* for the environmentalist groups.

#### Preservationist

The preservationist is usually thought of as being the opposite of the developmentalist. The preservationist is someone who wants to preserve resources, to allow portions of the environment to remain in its natural state.

The preservationist questions the importance of population and economic growth. He is continually faced with conflict between his philosophy and the realities of his society. For example, he

. . . faces a problem every time he buys a tank of gas, redwood picnic table, or a piece of electrical apparatus. He places an economic pressure on the supplier to expand the very activities to which he is opposed. The preservationist with an eight cylinder car and a house full of appliances is a man against himself. He cannot demand the preservation of wilderness and at the same time demand a greater amount of consumer goods and tolerate an expanding population (Eiselein 1969:98).

The preservationist regards population and economic growth as a dangerous trend. He often questions who benefits and points out how often benefits only serve a few rather than society. When speaking positively of who should benefit, the preservationist refers to society and more often to mankind. On the cost side the preservationist points to the costs to society or mankind of proposed activities to stimulate population and economic growth. Yet, he seldom identifies who is to pay the costs of his programs.

To the preservationist the proper utilization of at least some of the natural resources is preservation. The criterion used by the preservationist to evaluate development plans is *survival* or the threat to survival for plants, animals, vistas, or even man. The preservationist argument takes on its greatest force in swaying public opinion when rare plants, animals, or vistas are threatened or when the life of man himself is threatened. Perhaps the strength of the preservationist view in this case is the convergence with the principles of economic evaluation. When a plant, animal, or vista becomes rare its value is recognized by all even though no monetary value can be placed on the item. Uniqueness clearly connotes special value.

To the preservationist the quantity of natural resources is viewed as declining and since man is conceived as part of nature, this decline is viewed with alarm. Since man with his technology and *superior* intellect has forced himself into the dilemmas associated with growth, the preservationist doubts man's ability to get himself out. Doubting man as a manager of nature, the preservationist is more likely to look to nature for management hints.

The preservationist philosophy was associated with such voluntary associations as the Sierra Club, Audubon Society, Nature Conservancy, and hiking clubs. Federally, the preservationist philosophy was represented in part by the actions, policies, and philosophies of the National Park Service. Preservationists perceived themselves as being outside the established policy-making system, although people with preservationist philosophies worked for many Willamette Valley governmental agencies.

In actual fact each individual works out his own philosophy regarding growth and his place in nature. Those individuals whose actions and attitudes show favor for growth, man's management of nature, and emphasis on maximum utilization of natural resources are labeled developmentalists. One individual reviewing these categories suggested the role of the exploiter, one who favors man's management for the sole purpose of his own personal benefit. People often place real estate developers in this category. This comment serves to illustrate that the stereotypes are used to not only identify ideal types but also to identify extremes. The developmentalist and the preservationist philosophies represent polar opposites along a continuum having the dimensions of growth and man's relation with nature.



## Conservationist

The principle determinant distinguishing the conservationist from the developmentalist or preservationist philosophies is that he does not believe in either the maximum utilization of resources or the preservation of resources, but in the *wise-use* of resources principally by the minimization of waste. The following quote from a Willamette Valley soil and water conservation district annual report summarizes the conservationist philosophy regarding the utilization of natural resources.

### The Meaning of Conservation Is

TO USE our soils to produce to their fullest within their capabilities, to improve them, to maintain them, and in the end, to leave them better;

TO HARVEST the products of the soil--the forests with their timber, the rangeland with its forage, and the crop plants with their food--so that the soil is unimpaired and the products are thriftily used;

TO USE the waters on and under the surface of the land from their sources to sea so as to have always present an abundant supply, clear and clean, with flow sufficiently controlled to prevent unnecessary damage;

TO MANAGE in such a way that we may enjoy the wildlife of forests, streams, range and farmland, for sport and for recreation, encouraging always its survival and, in balance with other resources;

TO TAKE from the earth its minerals, its coal, its petroleum, its other stored or nonrenewable resources, in such a way that the supply is not wasted, but is used with good sense, and made to last for time to come;

TO MANAGE all these resources, as they relate one to another in our watersheds and our communities;

AND, as a sum of all these, TO USE EFFICIENTLY, WISELY AND WITHOUT WASTE, THE NATURAL RESOURCES OF THE EARTH FOR THE BENEFIT OF THIS AND COMING GENERATIONS, AND THUS INSURE CONTINUING PROSPERITY FOR THE PEOPLE OF A FREE WORLD (Sauvie Island Soil Conservation District 1960:2).

Wise use, without waste, then, assures a sufficient quantity of natural resources for man. Man for the conservationist, like man for the developmentalist, is conceived apart from nature. For the conservationist, man is conceived as the wise manager, not nature; nevertheless, the conservationist view explicitly recognizes man's dependence and the reciprocal effects, *vis a vis* nature, of his actions.

The conservationist believes in the management of plants and animals for the benefit of man, and he favors being able to predict the population levels of desired plants and animals. One management concept which recognizes the reciprocity between man and nature is sustained yield. Sustained yield is concerned with how the quantity of the resource varies over time. The goal is to always maintain a sufficient quantity of the resource to meet human demands. A decline in the availability of a preferred resource to meet human demands is defined as undesirable. The sustained yield concept implies *limited use* in order to maintain resource availability.

Also associated with the conservationist view is the concept of *multiple use* and *multiple purpose*. Congress defined *multiple use* as:

The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output (74 STAT. 215).

Multiple use and its corollary in water resource development, multiple purpose, are political mechanisms to assure the widest range of support for federal expenditure programs.

Conservationists do not oppose population and economic growth but they are opposed to any growth which would jeopardize preferred resources. The conservationist is not categorically against growth, he does however, question growth which takes up the best farm land, threatens populations of preferred species of plants and animals, emphasizes throw-away packaging, and unnecessarily exploits the environment. He favors balanced growth. The position of the conservationist is in a sense the

compromise between the developmentalist and preservationist. Someone articulating the conservationist philosophy would say, "I don't disagree with the preservationist, but where you have a choice between water for people and water for animals, then we must take water for people" (Eiselein 1969:69).

Most often the groups supporting the conservationist philosophy are those who depend directly on the natural resource for their recreation and livelihood. These are farmers, cattlemen, fishermen, and hunters. One of the interesting characteristics of this group, especially as manifested in soil and water conservation districts, is their perception of the supernatural source of natural resources. Take for example the prayer for Soil Stewardship week in 1971:

#### CONSIDER THE EARTH

It's the mountains and valleys, the forests and flowers;  
 It's the sky overhead, the summertime showers.  
 It's the storehouse of waters, the source of our food;  
 It's the fish and the sheep and the giant redwood.  
 It's the place of four seasons; it's day after night.  
 It's an empire of beauty. It is here there is life!

Who but the Lord could give sunshine and soil?  
 Who but He, give us oceans and oil?  
 Think of the atom, the wind and the rain.  
 Think of His gifts of colors and grain.  
 What price would you pay for the coo of a dove?  
 And how would you value a young mother's love?  
 Where but on Earth are there children and air?  
 Where but around us a planet to share?

The earth is the Lord's, with riches unmeasured;  
 The home where we live, a world to be treasured.  
 We can spoil it, or keep it, as a land full fair  
 For we are His stewards; His earth is our care.

Consider the earth. Consider it well.

This is not unique among soil and water conservation district activities. Tossett (1961:59) presents a prayer written by W. F. Hall at the 1955 meeting of the board of directors of the National Association of Social Conservation Districts. This prayer, too, emphasized the supernatural source of resources. In the Willamette Valley, the opening statement of the December 15, 1971 issue of the *East Linn S. W. C. D. News* contained the remarks:

Our Loving Creator gave us a good clean earth  
 and endowed us with the ability, love, and  
 knowledge to appreciate all of His creation.

So, *please*, do not let our greed and lack  
 of concern destroy God's great handiwork.

God is to some conservationists what Nature is to some preservationists, and profit is to some developmentalists. The supernaturally given source of resources is sometimes part of the developmentalist view as the following comment by the President of the California Water Resources Association writing on the California Water Plan indicates:

Some water project critics seem to forget that the Almighty created the oceans and the clouds which dispense the rains into our rivers and lakes in a divine plan to meet the needs of living things on this planet, not to be placed in ecologic isolation as some preservationists advocate today.

Man in order to exist has been forced to control and draw upon these natural water resources to drink, bathe, irrigate his crops, prevent floods and find recreation. The State Water Plan provides a flexible guide, subject to change, for meeting such needs, while being geared to take into account fish and wildlife and the ecology (*San Francisco Examiner*, November 15, 1970:2B).

#### Environmentalist

The discussion of the conservationist with emphasis on the farmer, cattleman, and soil and water conservation district emphasizes a rural orientation. Many of the most important conservation programs have helped rural areas, and it is from rural areas that much conservation stimulus has come. Since Earth Day, April 22, 1970, the term environmentalist has gained popularity for referring to those concerned with natural resource issues.

The term, "environmentalist," lumps into one category many groups and individuals representing a broad range of philosophies. Environmentalists include people with preservationist and conservationist views. What seems to distinguish the environmentalist from the conservationist is his urban orientation. The environmentalist is also more concerned with limiting use of resources, than with wise use. The developmentalist clearly rejects the environmentalist view as being too anti-growth and development.

In Oregon the Western Environmental Trade Association was formed in December 1971 to fight the assault of "Wave after wave of an army of misled, misinformed but well-intentioned environmentalists" (*The Oregonian*, December 23, 1971:15). Much of the leadership for environmentalist activities came from people with preservationist backgrounds which were anti-development; however, the political stance of environmentalist groups made preservation too radical to be politically acceptable, nor

could preservation be argued in the face of what was obviously population growth. More people were going to make more demands on the resources.

The environmentalist, then, was politically oriented and had more of an urban background than the conservationist. He was less extreme than the preservationist; but still opposed to detrimental growth and development. The environmentalist, was likely to call himself a conservationist, but so was the developmentalist and sometimes the preservationist. The convergence toward the conservationist terminology comes, I think, from the multiple use and multiple purpose concepts. These function to provide broader constituencies.

### Content Analysis

Based on the above observations of patterning in people's philosophies regarding natural resource management, the statements of people giving testimony at six Willamette Valley public hearings were selected for content analysis. Five of the hearings selected were Corps of Engineers' hearings to determine public sentiment regarding proposed developments in the Clackamas, Thomas Creek, South Santiam, Calapooia, and Mary's River basins. These hearings were conducted in 1962, 63, 69, 70, and 71. The sixth hearing was held in 1971 on scenic waterways status for the South Santiam. These hearings were selected to include all the hearings held during the course of this research, 1969-71, and for which there were also observational data. In addition, two earlier hearings were chosen from the period when the Willamette Basin Task Force study was being initiated and public hearings were held for the purpose of updating the Willamette Valley development plan.

Fifteen variables, derived from observation of natural resource lemmas, were used in the content analysis. Five were demographic in nature, identifying the kind of organization and its interests, the hearing, and the nature of the testimony. Three of the remaining ten variables were concerned with the question of growth, two with benefits and costs, and one each with the kind of management, man's relation to nature, the quantity of nature, future orientation, and favor or opposition toward the development being evaluated.

Only the oral and written statements of organizations were analyzed. Two people read the transcript of each statement and recorded the attitudes reflected in the statement on a standardized code sheet. Then, I, one of the two coders, reread each statement and worked out the codes where there was disagreement. The two coders agreed on their codes 72 percent of the time. In working out conflicting codes the distribution of answers selected between the two coders was very nearly even. Clearly the judgements made were subjective, and we may have imposed our stereotypes about the environmentalists, developmentalists, etc. on the data. The purpose of the content analysis, however, was to test some of the commonly held stereotypes that environmentalists and developmentalists

think differently on issues of natural resource management. The end result was 132 coded statements.

The most meaningful category of analysis was dividing the statements by the kind of group making the statement. Groups having a high degree of consistency in response were:

local developmental interests - local government,  
business and industry, and chambers of commerce  
state and federal governmental agencies  
environmentalist groups.

These groups were 61 percent of the total sample. One of the problems with the content analysis was that not every group commented on all the philosophic categories. Therefore in many cases the sample size was small.

On the issue of population and economic growth all of the responses favoring growth or indicating that growth was inevitable came from local developmental interests and governmental agencies. All of the statements questioning growth came from environmentalist groups (Table 1).

Table 1. Population and Economic Growth

	Should Occur, Inevitable	Should Not Occur
	(number of responses)	
local developmental interests	19	0
state and federal governmental agency	2	0
environmentalist	0	5

The options for the kind of management consisted of modification by man, multiple purpose management, managing in harmony with nature, or letting nature take its course. Here again the overwhelming response by local interests was for management by man or multiple purpose management. State and federal agencies with the exception of fish and game managers

expressed the same kind of beliefs and the environmentalists strongly favored management in harmony with nature or letting nature take its course (Table 2).

Table 2. Kind of Management

	Management By Man, Multiple Use	Manage In Harmony With Nature, Let Nature Take Its Course
	(number of responses)	
local developmental interests	27	0
state and federal government agency	10	5 <sup>(1)</sup>
environmentalist	1	8

1. Four of five were fish and wildlife managing agencies.

On two other variables, man's relation with nature and the quantity of nature, the same reversal of pattern in views between local developmental interests in contrast to environmentalist views held. Environmentalists saw man as part of the environment and related to other plants and animals. The local developmental interests viewed man as apart from nature. Local developmental interests also emphasized the importance of maximum utilization of natural resources while environmentalists emphasized the declining or limited quantity of resources and the need to conserve natural resources. The governmental agencies' views were similar to the local developmental interests favoring maximum utilization of resources. Fish and game agencies were the exception, believing more like the environmentalists.

As might be expected, environmentalist groups opposed construction projects and favored scenic waterways while the local developmental interests favored construction projects and opposed scenic waterways (Table 3).

Table 3. Attitudes Toward Construction

	Favor Construction, Oppose Scenic Waterways	Oppose Construction, Favor Scenic Waterways
	(number of responses)	
local developmental interests	33	0
state and federal governmental agency	10	0
environmentalist	1	10

When I began the content analysis, I expected to find internal consistency in the views expressed. For example, I expected that a respondent favoring management by man would also emphasize man apart from nature, the need for maximum utilization of resources; and conversely, a statement to let nature take its course would also emphasize man is a part of nature and natural resources are limited and must be conserved. These patterns did show up, but in insufficient numbers to verify these relatively obvious philosophic associations. People making hearing statements did not specify their entire philosophic position, but used only those portions pertinent to the issue being discussed.

I also wondered if people who favored a project would place more emphasis on benefits while those opposed would emphasize costs. There was a general tendency for benefits to be more frequently mentioned. Of the 132 statements 56 percent referred to benefits while only 30 percent mentioned costs. Of those mentioning benefits, 84 percent also favored the project. Of those mentioning costs, 61 percent opposed the project. Therefore, there was a tendency for those favoring a project to talk in terms of benefits and those opposed to talk in terms of costs.

I have not discussed the future orientation variable. The results on this variable were inconsistent with my expectations. I expected the local developmental interests composed of local government, business and industry, and chambers of commerce to emphasize predicting or planning for some future date. Smith and Hogg (1971b) have shown that this was typical of state and federal agencies. I expected environmentalists to place greater emphasis on adjusting to future



changes, to emphasize adapting and flexibility. As expected none of the local developmental interests emphasized adjusting, adapting, or flexibility; however, only one environmentalist group emphasized predicting or planning for the future.

The content analysis, for the most part, verified the clusters observed around natural resource lemmas. It did not show uniformities in the sense that certain organizations were all alike, although organizations clustered together on several of the philosophic issues studied.

### Cultural Base

Growth and man's place in nature are questions which wax and wane continuously as men contemplate the sufficiency of their adaptation. Anthropologists have shown that questions about man's place in nature have occupied the thoughts of all peoples of the world, although peoples' answers to this question vary considerably. Anthropologists have found an impressive array of population control mechanisms, both conscious and unconscious (Benedict 1970). Information or perceptions about economic growth has not been gleaned from the record of primitive societies.

Events in the United States illustrate the continual emphasis and de-emphasis of ecology and economy. Concern with ecology heightened with Earth Day, April 22, 1970. This rite of intensification held sway until August 14, 1971 when President Nixon announced his Phase I economic plans.

Growth is so central to the American culture that it infiltrates most activities. Even activities in which it has been omitted do not escape its pervasive influence. Congressmen have proposed that the Environmental Impact Statement be modified to include information not only about the environmental impacts of any proposed project, but also the economic impacts.

Growth has been a necessity for the United States in order to people and maintain a vast land resource. Many pieces of legislation have been passed for the expressed purpose of expediting the growth of the Western United States--The Homestead Act of 1832, The Mining Act of 1872, The National Irrigation Act of 1902, The Federal Water Power Act of 1920, The Flood Control Act of 1936.

Concern about the rate of growth and man's place in nature has an equally long history. The creation of national preserves was suggested by Thoreau in 1858, a decade before Congress set aside Yellowstone Park (Udall 1964:63). Yosemite was preserved for public use, resort, and recreation in 1864. George Perkins Marsh threatened human extinction in *Man and the Earth*, 1864. John Muir and President Theodore Roosevelt championed preservation together in the twilight of the twentieth century. The National Park Service Act was passed in 1916.

Citizens of the Willamette Valley of Oregon, too, have a history of concern for growth and their place in nature. One of the first institutions created to work out this relation was the Oregon Conservation Commission created first by Governor Chamberlain and then in 1909 formally adopted by the state legislature. Conservation commissions in Oregon and other states derived from the stimulus of reclamation, forestry, and inland waterways. The charge to the Oregon Conservation Commission (1910:5) was

. . . to constitute an official agency to act in behalf of the State and its people in formulating a definite policy for the fullest and most permanent use by the people of Oregon's resources.

In fact as the commission report acknowledges, "It would have been almost equally appropriate to call it a 'development' commission." The conservationist side of the commission came from the recognition that "Such a policy requires that these resources shall be developed and not wasted." Later, in 1938, the Oregon State Planning Board, the state agency then concerned with the resources of the Willamette Valley, expressed this relationship about the Oregonian's place in nature for that period:

Nature lovers, sportsmen, and other wildlife enthusiasts decry the encroachment of civilization: power dams are obstructing the salmon runs; farmers are draining the marshes and ponds, destroying cover where birds nest, sheep and cattle are depriving the deer and elk of winter food; industries deface the countryside and pollute the streams. . . Fortunately, conservation provides a solution. True conservation means balanced growth through the adjustment of conflicting interests instead of adopting any extreme measure. Through conservation and cooperative planning, we can "have our cake and eat it too" (Oregon State Planning Board 1938:52).

Both in 1910 and 1938, conservation was the middle ground where cooperation and planning could be counted on to solve the problems of recognized over-exploitation of natural resources. Thirty years later the hoped for balance had not been obtained. "Population, and use of resources, is predicted to increase rapidly in the future" (Willamette Basin Task Force 1969:Appendix M, I-2). The Willamette Valley Environmental Protection and Development Plan (Patterson, Langford, and Stewart 1971:2) stated that the goal of the plan was: "To preserve and enhance the qualitative aspects of the Willamette Valley's livability in harmony with a projected quantitative expansion of the economy and population."

The goal of balanced growth in which man lives in harmony with nature has not been achieved, nor is it likely to be achieved. Why is it that the goal of a balanced growth in which man lives in harmony with

nature cannot be achieved? The answer to this question comes from examining the nature of growth and asking how does growth take place? The problem seems to lie in the assumption that growth is some kind of a free good and accrues to society without costs. This philosophy has been challenged by Mishran (1967), Boulding (1966), and others.

Growth is composed of two major components. One is population change--the increase in the numbers of people. The second is economic change--the increase in income per capita or wealth per capita. How are increased numbers of people and increased resources per capita achieved while maintaining a harmonious relation between man and nature? The answer is that this is impossible. Man like all other creatures of nature is exploitive of resources and thus, growth can take place in one or a combination of three ways:

1. exploitation of the biosphere
2. exploitation of others
3. reduction of waste.

Growth by exploitation of the biosphere takes place when a society takes energy from the hydrologic cycle and converts it into electric energy, or extracts fossil fuels and releases the energy stored there, or harvests a plant or kills an animal to release the energy and nutrition stored there, or dams a river to create additional space for human settlement along the river bank.

Exploitation of other groups of individuals is a particularly well developed pattern of industrialized societies as they extract land, labor, and resources from less developed societies. Through this process groups or individuals attempt to rearrange the distribution of resources to benefit their group or themselves. It is a pattern of behavior which has been particularly well developed by those of a European cultural background. The opening up of sea trade routes, colonization, and international trade policies would be examples. In each of these situations the attitude was to get something by giving up little or nothing. In an economic sense the objective is to maximize participation in the role of beneficiary, receiver of benefits, and minimize participation in the role of benefactor, the payer of costs (Smith and Hogg 1971a).

The third situation, reduction of waste or maximum utilization, is an efficiency criterion. Such is the case when an irrigator switches from flood irrigation, where the losses may be as high as one third of the water produced, to sprinkler irrigation; or when water stored behind a dam is used to generate power when released for irrigation as well as enhancement of water quality, recreation, and fish and wildlife management.

For a society to grow it must either exploit the environment, exploit other people, or reduce waste by more efficiently using the resources available to it. Given this, growth, except under situations of improved efficiency, is exploitive of the environment or other people.

The first major lemmas facing man as he contemplates utilization of water and other resources is what will be the level of exploitation of the environment and of fellow men? One of the outgrowths of this question are other questions about the proper relation between man and nature. Developmentalists, preservationists, conservationists, and environmentalists each provide somewhat different answers. A second outgrowth is more questions about the proper relationship of man to man. This latter question is the primary subject matter of this monograph. How were the man to man relationships worked out by Willamette Valley citizens, by those attempting to influence action? The natural resource lemmas were worked out in accordance with the self-interests of individuals and groups, in accordance with human resource lemmas, and in accordance with principles of human adaptation. The chapters which follow develop the nature of this process.

## CHAPTER 3

## INTERPRETING PUBLIC OPINION

In order to determine the opinions of a large number of people regarding natural resource lemmas and other issues pertinent to water resource utilization some method is required which provides the decision-maker with valid and reliable information about people's opinions. The decision-maker has neither the time nor the resources to interact and involve himself with every member of the population of people who can affect or who might be affected by a particular decision. A commonly used tool for soliciting the opinions of people is to administer a survey to a representative sample of the population.

Surveying a representative sample of the whole population and the theme of this monograph that people's actions are governed by individual self-interests would seem to be conflicting goals. In fact, they are, and one of the objectives of this chapter is to illustrate how this is so, and how survey data illustrate this is so. This does not necessarily negate the importance of surveys as tools to help decision-makers with policy decisions. It may, however, suggest alternate ways for interpretation of surveys, for survey construction, and for utilization of surveys.

Part of the data base on public participation came from surveys conducted in several Willamette Valley communities (Figure 2). One survey was conducted in Sweet Home in 1968 to determine the attitudes of the local residents about the impacts of the Green Peter and Foster Dams. The next year, shorter and less comprehensive surveys were conducted in the communities of Albany and Lebanon. Then, in 1971, additional surveys were conducted in Woodburn and in the Tualatin Valley communities of Hillsboro, Tualatin, and Tigard. Also in late 1971 and early 1972 a resurvey was attempted in Albany. The surveys were designed to complement a study of the social and cultural systems for Willamette Valley water resource utilization. The surveys were conducted in communities where intensive observation, interview, and record review were done to provide supplementary data.

The surveys were designed to complement the field work, and they varied somewhat from community to community. In addition, some of the content objectives varied from survey to survey. There were, however, two objectives which were consistent for each of the surveys. These were the concern for people's attitudes regarding a desirable community. The data focusing on these two concerns are the primary subject of this chapter. These data are used to question whether surveys are useful tools to enhance public participation in decision-making.

Complementing this survey work were two other surveys conducted in the Willamette Valley and Oregon during the same period. Pacific Northwest Bell commissioned Louis Harris and Associates, Inc. (1970) to do a "comprehensive study of public attitudes toward environmental problems" in Oregon. In the other, "Governor Tom McCall, with the cooperation of legislators, county officials, mayors and city councilmen, . . . asked more than 50,000 people to help plot a course for the future of the Willamette Valley" (*Gazette-Times*, December 10, 1970:A-15). These surveys which also had the growth and community desirability themes provided a comparison and check.

### Population and Industrial Growth

Two attitudes which are critical to policy decisions regarding environmental management are feelings about population and industrial growth. Surveying on this issue in the communities of Albany, Lebanon, and Sweet Home, using scales such as strongly favor, moderately favor, neutral, moderately disfavor, strongly disfavor, showed both population and industrial growth were favored and that there was greater support for industrial growth than for population growth (Table 4).

Analyzing the research results and comparing them with observations made in the communities suggested that there were more degrees of differentiation than the five semantic categories were yielding. We also found from supplementary comments made by survey respondents, that there were many specific attributes about population and industrial growth which the survey question was not discriminating. For example, many of the acceptances of industrial growth were conditional on non-polluting industries. For population growth there was resignation to the fact that it was inevitable.

To obtain more degrees of differentiation and to gain greater depth on the specific features about growth which concerned people, questionnaires used in Woodburn and the Tualatin Valley were modified to incorporate a new kind of measuring device for determining attitude intensity and to incorporate more open-end questions.

I had previously used a semantic differential in the Salt River Valley of Arizona (Smith 1972) to measure the intensity of people's feelings about organizations and economic activities. The semantic differential uses a seven point scale, suggested by Stagner and Osgood (1946) to be the maximum number of degrees of difference which people tend to use with equal frequencies. In the Salt River surveying I felt that more degrees of differentiation would have been useful. Having had background as an engineer, I thought of the model of a slide rule as a possible tool for attitude measurement. After a couple of prototypes were tested and rejected two indicator configurations (Figure 3) were field tested.

## WILLAMETTE RIVER BASIN OREGON

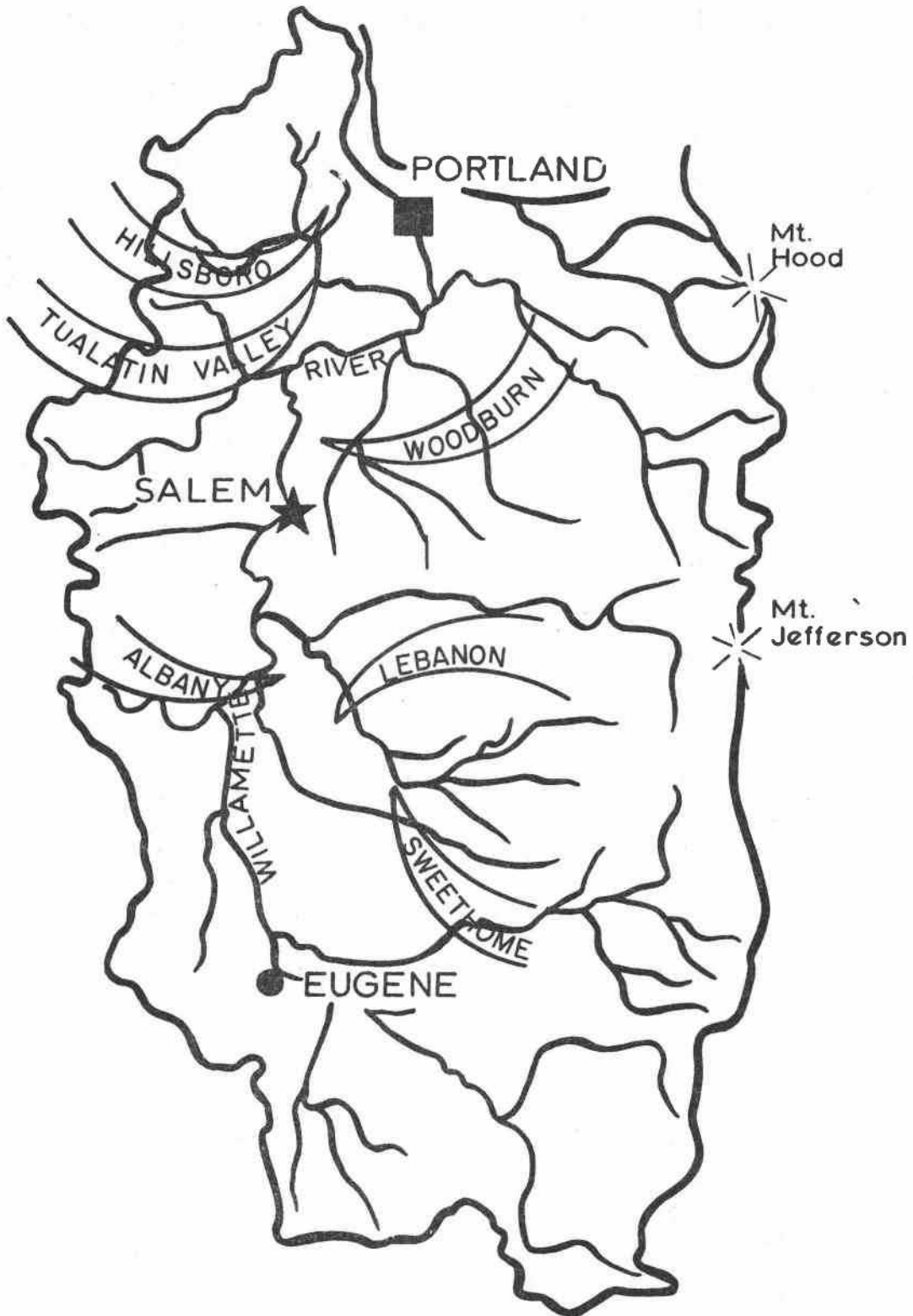


Figure 2. Communities Surveyed

Table 4. Attitudes Toward Population and Industrial Growth Using Word Categories

I. Albany, Lebanon, Sweet Home

	Population Growth		
	favor	undecided (percent)	disfavor
Albany (n = 160)	58	8	31
Lebanon (n = 141)	59	9	31
Sweet Home (n = 190)	72	7	19

	Industrial Growth		
	favor	undecided	disfavor
Albany (n = 160)	72	5	21
Lebanon (n = 141)	85	1	11
Sweet Home (n = 190)	95	1	4

II. McCall Survey (A) and Louis Harris and Associates Inc. 1970:44 (B)

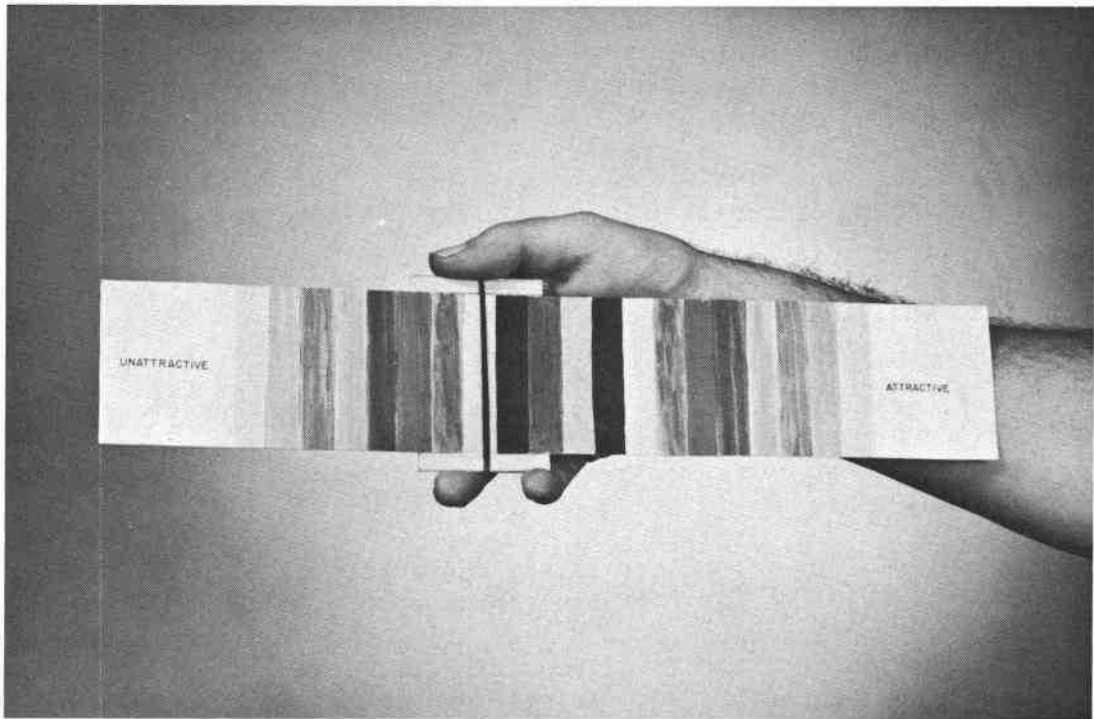
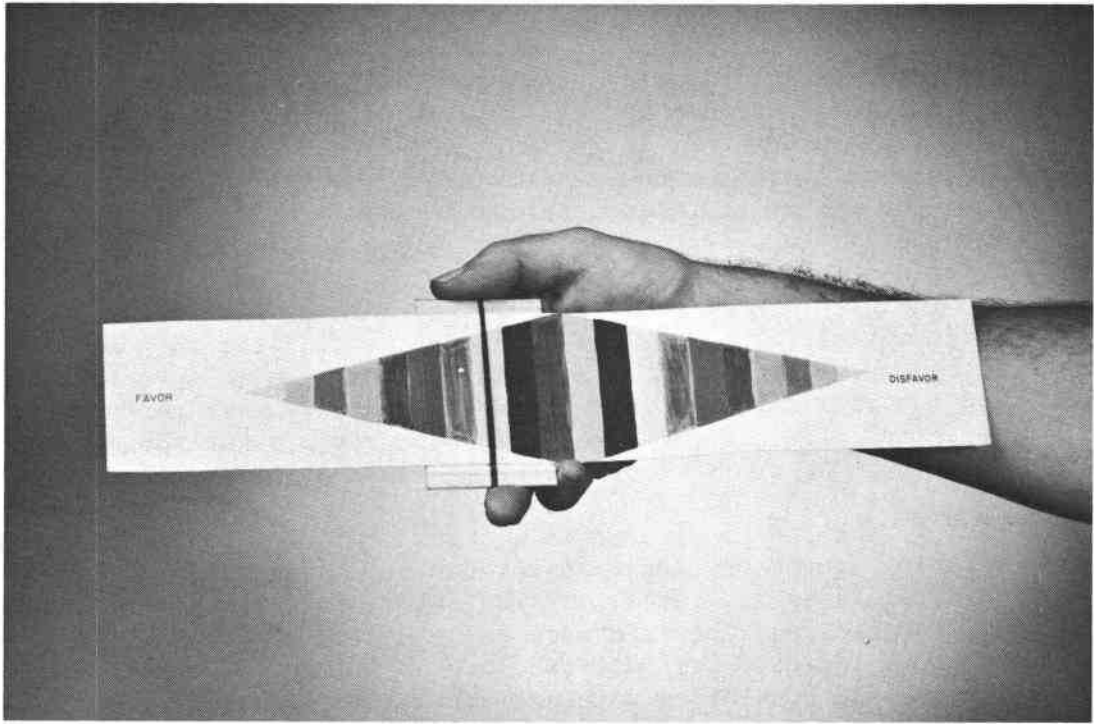
	Population Growth		
	favor growth	undecided (percent)	keep as is
A. Willamette Valley n = 13,776	58	4	34
B. Northwest Oregon <sup>(1)</sup> n = 260			

	Industrial Growth		
	essential or important	not sure	not important or bad idea
A. Willamette Valley n = 13,776			
B. Northwest Oregon <sup>(1)</sup> n = 260	85	3	12

1 Northwest Oregon includes the Willamette Valley and the North Coast of Oregon.





**Figure 3. Indicators**

Typically research instruments are first tested on populations of college students before use in the field. Since large segments of the general public do not have college experience, the survey instruments have to work not only for college students, but for those without college background. My previous experience in the Salt River Valley indicated that the semantic differential worked best with people with college backgrounds and that less educated and older people were more likely to have trouble or be unwilling to use it. There was no reason to believe that the indicators used would be any better in this regard than the semantic differential. The only possible advantage of the indicator was that there was no adverbial attachment with particular spaces. Experience did not show that the indicators devised were any easier to use than the semantic differential. The indicators did provide the greater differentiation in people's responses which was the primary objective.

The indicator used to measure attitudes toward population and industrial growth was designed to measure continuous variation between the poles of favor and disfavor. The scale was 10 inches long. The slide was movable, and the informant was asked to move the slide along the scale to indicate the intensity of his feeling in terms of favoring or disfavoring population and industrial growth.

In order to use the indicator effectively in the field, several compromises were made between what was methodologically best and what was practical. First, to record the intensity of the informant's opinion, the scale was segmented into 20 half inch intervals, and these intervals were colored with various colors--light and dark blue, light and dark green, purple, brown, yellow, orange, black, red, and pink. With the exception of red and pink which were the center two colors on the scale, the positive and negative sides of the scale had the same colors in the same intensity locations. The positive and negative sides were mirror color images. The purpose of the colors was to provide a quick way for the interviewers to record the response of informants. Other techniques were considered but rejected.

This decision to use colors in effect made the scale an interval scale rather than a continuous scale. Informants typically used the end-points of the scale, mid-point of the scale, lines between colors, and mid-points of colors. This, however, provides 41 points of differentiation.

The use of colors raises the question, "To what extent do color preferences interfere with the informant's response?" From observation of how people respond to the indicator, checking response data, comparing results in the three communities in which the indicators were used, and using many different interviewers there was little data to suggest that color interference was important.

The indicator was used as part of a relatively open-ended survey on the quality of the environment, perception of environmental problems, and ways of dealing with these problems in Woodburn and the Tualatin

Valley. One index of problems with a question is the response rate. In questions using the indicator the maximum non-response rate was 7 percent for the Tualatin Valley and 5 percent for Woodburn. Appendix B discusses the adequacy of the surveys. Measures of association do indicate some significant differences between the survey populations and the census data, there are tendencies toward disproportionate numbers of homeowners, females, and more educated informants.

Generally the average scores using the indicator on the questions of population and industrial growth were comparable to other surveys (Tables 4 and 5). Industrial growth was more positively favored than population growth. The average scores for population growth fell in the undecided zone, being near 5.0 which was the point in inches measured from the most positive end of the scale. In recording and analyzing the data from the indicator the convention was established that the point closest to favor on the scale was scored as zero and the point farthest away scored as ten. The distances in between were measured in inches from the zero point at the favor end of the scale.

Table 5. Attitudes Toward Population and Industrial Growth Using Indicator

Community	Population Growth		Industrial Growth	
	community	state	community	state
Woodburn				
n = 119, 119,				
119, 117 <sup>2</sup>	5.0	5.6	3.8	3.4
Tualatin Valley				
n = 162, 161,				
161, 157 <sup>2</sup>	5.4	6.0	4.5	3.9

1. Measured in inches from favor, most favor = 0, most disfavor = 10.0, neutral = 5.0
2. Number of responses each column, left to right.

The indicator scores (Table 5) showed that industrial growth was more positively valued than population growth, although population growth for the state in Woodburn and the Tualatin Valley had a negative evaluation and population growth in the community was in the undecided region. These data suggest a paradox in community attitudes. Taken together how can industry come to the state without the state experiencing growth? Such a situation is conceptually possible, but in light of past experience industrial growth is closely correlated with population growth. The

important difference in interpretation was not, however, this apparent inconsistency. Inconsistencies were common to all the surveys when questions are weighed one against the other. For example, in the McCall survey the technical advisory committee interpreting the survey was confused by the apparent inconsistencies between respondents evaluating air and water quality as more important than industrial growth, yet on another question respondents indicated industrial growth should be stimulated. Most of those interpreting the questionnaires accepted the argument that air and water quality could not be improved without continued economic growth. In the Louis Harris and Associates (1970:39 and 44) survey the respondents felt that industry was most responsible for pollution, but they also indicated that it was important to attract new industry to Oregon.

On the topic of land use, the technical advisory committee evaluating the McCall survey perceived another paradox. Respondents accepted the policy that landowners should be able to develop their property as they saw fit, yet respondents also favored maintaining prime agricultural land. Many of the committee members perceived farmers as holding their land for sale at a sizable profit for urban development. Observation of Willamette Valley farm operators and owners' activities at county planning commissions and their support of land use planning, most often with maintenance of prime farm land as the goal, suggested that farmers were not necessarily waiting for the big real estate killing. Many farm operators and owners saw farming as a life style which was "good for raising kids" and free of drugs, hippies, crime, welfare, and violence.

These apparent inconsistencies were indicative of the fact that questionnaires are particularistic and do not develop a wholistic view of each citizen's decision-making framework. Far more important in my view was the fact that the measure using the indicator showed undecidedness among citizens regarding population and industrial growth. This undecidedness correlated closely with the activities observed in local communities and in the Willamette Valley which were made in conjunction with the surveys. During this period, the governor was making statements about come to visit but do not stay, and later questioning whether tourists should be invited at all. The State Legislature considered cutting off funds for national promotion of tourism in Oregon. The budget for this purpose was cut, although no cutoff occurred. Various groups concerned with business and the environment debated the need for growth and the problems of growth. A common item of discussion in small groups of friends, perhaps after opinions on the Viet Nam War had been clarified, was the issue of growth.

Data from observation indicated groups of people strongly in favor of growth and groups of people strongly opposed. In between there were many shades of differing intensity of opinions. This was illustrated by sorting the Woodburn and Tualatin survey populations into the number of people strongly in favor of community population growth, those strongly opposed, and those who were neutral. Eight percent were in the strongly favor category, with indicator scores of less than 1.0. Fourteen percent were in the strongly disfavor category, with indicator

scores greater than 9.0. Fourteen percent were in the neutral category, with indicator scores of 5.0.

The growth issue was in 1971 in the debate stage; no public policy determination had been made. Or more accurately, few overt actions to change from a promotion of growth policy had been taken. The behavior of policy makers indicated a testing of the water so to speak. The average scores from the survey indicated that public opinion on the issue was inconclusive.

#### Environmental Problems and the Community as a Place to Live

The surveys of Woodburn and the Tualatin Valley queried respondents on the attractiveness of their community and the state of Oregon. For attractiveness a slightly different indicator was used (Figure 3). My intuitive feeling is that the block design was more confusing to respondents than the design of the favor-disfavor indicator. It did not communicate as clearly the purpose of the indicator, nor was the mid-point of the indicator very clearly placed. At this stage of development, empirical data to support or refute these feelings are not available.

Tests of association indicate that attitudes toward population and industrial growth were related. The attitudes toward growth were not, however, related to the perceived attractiveness of either the community or the state. This was partly due to the very high positive rating of the attractiveness of the state which was 0.9 in Woodburn and 1.3 in the Tualatin Valley (0 would be most attractive, 10.0 least attractive). In both Woodburn and the Tualatin Valley the state was perceived as being more attractive than the community. The community rating was 3.4 and 4.0, respectively. However, in spite of the fact that the community was perceived as less attractive, the percentage of people saying, "Yes, there are environmental issues," was greater for the state (Table 6). The same pattern of perception of more problems facing the state than the community was prevalent in the Louis Harris and Associates (1970) survey.

Table 6. Yes, Environmental Issues

Yes, There Are Environmental Issues	State	Community
	(percent)	
Woodburn		
n = 123	77	47
Tualatin		
n = 168	83	67

Observation and interviews indicate that one of the most important aspects of a desirable community was its location in proximity to such resources outside the community as recreation, stores, schools, work, and so on. Oregon residents were quite mobile, moving around their state to take advantage of the cultural, shopping, and recreation opportunities; hiking, skiing, and camping in the Cascades; or trips to the coast, to lakes, or to Eastern Oregon. In the Woodburn and Tualatin surveys proximity was mentioned by 28 and 35 percent of the respondents, respectively. Proximity also meant getting away from relatives, grandchildren, urban settings, and problems of crime as much as being close or convenient to community services, work, urban settings, the mountains, or the coast.

Survey responses reflected the life situations of the respondent more than any general pattern of mobility. One informant moved to be close to her doctor, others preferred to be away from or close to Portland, others indicated a preference for recreation opportunities. The responses indicated that each informant evaluated the question in the context of his or her own setting and life experience.

What environmental problems did people in these communities think were facing the state and the community, and what did the informants think were the attributes of a good place to live? The answers to these questions, which were common to the surveys in Albany, Lebanon, Sweet Home, Woodburn, and the Tualatin Valley as well as the Louis Harris and Associates and McCall surveys, suggest that:

1. There was no uniform public view of what is *the* problem.
2. There was no uniform set of criteria which would satisfy all or even most of the informants in solving the problems they perceived.
3. The attitudes people expressed indicated that their experience in their own life situation was an important shaping factor.
4. Even the words used to discuss environmental problems and community desirability did not have a universally accepted meaning.

The surveys in Woodburn and the Tualatin Valley asked informants to identify the "important environmental issues facing" Oregon and their community. The questions were posed in an open-ended manner, allowing freedom of response.

One finding was that to one fourth of the informants environment meant much more than air, land, noise, water, and other forms of pollution; resource utilization; or even population growth. People responded that traffic, hippies, zoning, unemployment, drugs, law and order, minorities, taxes, schools, and human relations were environmental issues facing the state and their community. Environment, for many, was taken

in its broadest sense. For others air, land, noise, and water pollution; resource utilization; and population growth were environmental problems.

A second finding was that the setting of the informant made an important difference. Informants in the Tualatin Valley, close to the city of Portland mentioned problems in and associated with Portland, population growth, and urbanization more frequently. Woodburn is located adjacent to Interstate 5, a major north-south route. Informants from Woodburn mentioned problems visible to them traveling along the freeway. An example being the air pollution problem south along the freeway in Albany. Being adjacent to an agricultural area they also mentioned field burning, and they mentioned the air pollution problems in Oregon City just north of Woodburn.

Table 7 compares the Woodburn and Tualatin responses. In addition to the findings that to many informants environmental issues included human resource related problems and the apparent influences of the informant's experience on the findings, note that one fifth of the informants did not mention any environmental issues facing the state.

In both survey areas air and water pollution had equal percentages of responses. Observation reveals that the situation in each case was quite different. In water pollution control substantial improvements had been made, while the program to improve air quality in Oregon had only just begun. The 1971 legislature approved a permit system modeled after the waste discharge permits authorized by the 1967 legislature. The air quality control program was in many respects modeled after the water quality control program. The surveys, however, did not pick up any public awareness of the different stages of development of each program.

Shifting from the state as an area of concern to the community, further emphasize the importance of personal experience and background as factors effecting people's perceptions of what are environmental issues. In Woodburn two issues dominated the survey responses--the sewage issue and intergroup relations.

Woodburn was a multi-ethnic community with retired, Russian-Old Believer, Mexican-American, and Euro-American populations. Significant differences in life style, beliefs, and aspirations distinguished these groups (Reagan 1972). It was not surprising, then, that 21 percent of the respondents mentioned intergroup relations as an "environmental issue facing Woodburn."

Before surveying in Woodburn was conducted, the State Department of Environmental Quality had informed Woodburn city government that their sewerage system was inadequate to meet revised state standards. The bonds required for upgrading the sewerage treatment plant went before the voters while the survey was being conducted. Over 50 percent of these voters were retired people living on relatively fixed incomes. City officials, allied with local business groups, told the voters that the sewerage treatment plant expansion was vital to the economic health of the

Table 7. Environmental Issues State

Issue	Woodburn	Tualatin Valley
	<u>123</u> 303 <u>respondents</u> responses	<u>168</u> 317 <u>respondents</u> responses
	(percent, based on respondents)	
Water Pollution	56	39
general reference	27	28
reference to streams and rivers	24	8
sewage	5	1
other	1	2
Air Pollution	52	40
general reference	16	24
visual qualities	24	14
reference to paper mills	11	2
other	0	0
Other Pollution, Natural Resource, and Population	79	64
general reference	20	12
population	7	14
natural resources	18	14
litter, garbage, solid waste	14	10
other	20	14
Human Resource Related	33	23
reference to minority groups (includes welfare)	13	4
reference to schools	3	1
reference to taxes	3	2
reference to recreation	7	5
other	6	11
No Environmental Issue Mentioned	27	20
don't know, no opinion, no things not that bad	24	18
	3	2



community. The Department of Environmental Quality had the power, which it used to force a regional sewerage solution to waste water problems in the Tualatin Valley, to limit the number of housing units which could be served by the sewerage treatment plant. In effect this limit could halt further community growth. By a very narrow margin the sewerage bond issue passed. The retired community was strongly opposed to the bond issue. The rest of Woodburn was predominately for the bond issue.

From the voting on this issue one would suspect that the retired community would show up as strongly against population growth while the rest of the Woodburn community would be strongly in favor. The indicator data showed no significant difference between the two populations on the growth question. Observation and interview in the community suggested that many of the members of the retired community were reacting to what they perceived as a possible increase in their cost of living. In their specific situation of relatively fixed income. The positive evaluation of growth would suggest that the retired people did not perceive growth in the context of adding to their cost of living.

The open-ended responses to the questions about environmental problems facing the community of Woodburn and the Tualatin Valley are presented in Table 8. The minority and sewage issues in Woodburn indicated that informants responded to the question in terms of their experience and life situation. In the Tualatin Valley the local problems of sewage treatment and the pollution of the local rivers and Fanno Creek stood out. The water quality problems of Fanno Creek were typically mentioned by people living near the creek.

The sewage problem in the Tualatin Valley was the most frequently mentioned environmental issue. Tualatin Valley residents live along one of the two rivers in the state of Oregon which had not shown improvement in water quality by 1972 (Oregon. Department of Environmental Quality 1972:1). The other river was the Klamath which was polluted from naturally occurring mineral deposits. To alleviate the water quality problem in the Tualatin Valley a regional sewage collection and treatment plan was formulated. The United Sewerage Agency, a regional organization, was created to implement the plan. In addition a plan to transfer water from the Trask River, in the Coast Range, into the Tualatin was authorized for water quality and water supply purposes. A water shortage reservoir to be constructed by the Bureau of Reclamation was to have storage capacity allocated for water quality purposes. Still at the time of the survey the Tualatin River was of inadequate water quality, a fact which 19 percent of the survey informants mentioned.

Because of the prevalence of a sewage problem in both Woodburn and the Tualatin Valley we might suspect that community concern for water pollution was over enumerated. The Louis Harris and Associates survey (1970:13, 36, and 38) also asked an open-ended question about "problems facing the community?" For respondents from Northwestern Oregon 16 percent mentioned air pollution and 20 percent mentioned water pollution. When asked, "How serious is water pollution?" 49 percent in Northwestern Oregon felt it was a serious problem in the community. The same percentage thought water pollution in the community was getting worse while only

Table 8. Environmental Issues Community

Issue	Woodburn	Tualatin Valley
	<u>123</u> 186 respondents responses	<u>168</u> 198
	(percent, based on respondents)	
Water Pollution	27	38
general reference	6	10
reference to streams and rivers (Fanno Creek)	3	8(7)
sewage	18	19
other	0	1
Air Pollution	18	7
general reference	5	3
visual qualities	13	4
reference to paper mills	0	0
other	0	0
Other Pollution, Natural Resource, and Population	20	21
general reference	2	3
population	0	4
natural resources	2	0
litter, garbage, solid wastes	7	8
other	9	7
Human Resource Related	33	15
reference to minority groups (includes welfare)	21	1
reference to schools	4	1
reference to taxes	2	1
reference to recreation	1	0
other (traffic)	6(4)	13(4)
No Environmental Issue Mentioned	54	37
don't know, no opinion, no things not that bad	45	30
	9	7

4 percent stated it was less of a problem. Measures, of dissolved oxygen, biodegradable oxygen demand, and suspended solids indicated that water quality in the Willamette River had been improving for the past 15 years (Oregon. Department of Environmental Quality 1970:18).

Why the difference between the real and perceived water quality? First of all there is no reason to expect congruency between the real and the perceived. One of the values of surveys is as a tool to identify such incongruencies. A second factor in explaining this disparity between the real and perceived was that the majority of Willamette Valley residents had no direct contact with the Willamette River. This lack of direct contact was a problem in developing interest in cleaning up the river. Initially fishermen were among the first advocates for improving the water quality of the Willamette. Much polluted water passed under the bridge before the public was made enough aware of the problem and the necessary action. Waste discharge permits, the enforcement tool which required identification and specification of the composition of all discharges into the Willamette River, were not devised until nearly 30 years after the creation of the State Sanitary Authority, which in turn was not created until 30 years after the first presages of the pollution problem in the Willamette began to present their case prior to World War I.

Once sold, then the pollution problem was difficult to unsell because of people's lack of direct experience with the river. Further, Woodburn and the Tualatin Valley were not the only communities experiencing sewage problems. Portland was faced with the financial burden of a sewage interception system, sewage rates in Salem and Corvallis increased in 1970. Most of the people of the Willamette Valley were experiencing the added costs of improved water quality. Estimates were that Willamette Valley municipalities had spent over \$100,000,000 for sewage collection and treatment facilities between 1946 and 1969 (Oregon League of Cities 1971). People were directly experiencing these costs and the argument about water pollution which necessitated the acceptance of additional costs for waste water management. Perhaps most interesting was that in 1970 and 1971 when people expressed their dislike for school taxes and most state bonding measures; they accepted water pollution control bonds, passed local sewer bond issues, and did not complain in the surveys of the increased costs of water quality enhancement.

The adequacy of water quality was only one of many concerns which people had. Problems of economy, crime and morality, education, planning, and their community competed with water quality for public attention. In fact, asking people the attributes of a desirable community and why they picked the community in which they were living revealed only moderate interest in environmental features (Table 9). More concern was expressed with the location of the community relative to recreation areas, work, services, urban areas, relatives, and friends. The community also had to have employment opportunities; it had to have good schools and community services; the housing had to be attractive, clean, and neat; and there should be friends, relatives, good people, and good neighbors.

Table 9. Community Attributes

Variable Category	Why did you come?		What's important?	
	Woodburn	Tualatin	Woodburn	Tualatin
<u>respondents</u>	<u>123</u>	<u>168</u>	<u>123</u>	<u>168</u>
<u>responses</u>	<u>158</u>	<u>187</u>	<u>218</u>	<u>300</u>
	(percent)			
<b>Environmental</b>				
general reference	19	4	20	8
community size	6	11	15	13
community location	20	17	23	24
spatial aspects	3	4	6	12
physical factors	9	4	20	18
<b>Community Services</b>				
schools	2	10	14	25
stores	3	1	11	10
churches	2	0	11	5
other	2	0	11	4
<b>Social Interaction</b>				
general reference	4	1	10	7
family and friends	20	24	6	4
good people, friendly	3	2	15	8
good place to raise kids	0	1	1	6
other	5	0	0	9
<b>Economic</b>				
work opportunities	24	32	9	17
taxes and cost of living	0	2	9	8
other	4	0	0	0
<b>Dwelling</b>				
housing	10	8	6	8
neighborhood (Senior Estates)	27(16)	1	2	8
attractiveness, clean- liness, neatness	6	2	12	14
quietness	4	3	10	7
other	0	0	0	0
<b>Other</b>				
born here	6	10	N.A.	N.A.
other	7	6	11	10

### Research Dimensions

In any research activity decisions have to be made on the methods to be used. Two dimensions are critical in setting the methods. These dimensions are objectivity-subjectivity and individual-group.

An objective approach is one where the designers of the research set the dimensions to be evaluated and also set the range of variation on each dimension. A question asking an individual, "Do you strongly favor, somewhat favor, somewhat disfavor, strongly disfavor, or are you neutral on the issue of population or industrial growth for your community?" would be an example of an objective type of survey question. In this question the research designer sets the dimensions, e.g. population and industrial growth, and the range of variation, e.g. strongly favor, somewhat favor, etc. A subjective approach is one where the people being researched set the dimensions to be evaluated and set the range of variation to be placed on each dimension.

A survey is usually objective in construction in that the designers of the survey set the questions and the responses to the questions. The inclusion of open-ended questions, questions in which the respondents to the survey set the responses, is a way of making surveys more subjective; that is, increasing the input of the people being researched regarding at least the range of variation if not the dimensions which are most important. An open-ended interview oriented around a topic which allows the informant to specify the dimensions which he thinks are more appropriate to the topic and also establishes the range of variation on these dimensions is still more subjective in terms of approach.

As defined here, objectivity and subjectivity are not being used to refer to the quality of the research methods. Objectivity and subjectivity are being used to evaluate the extent to which the people being researched contributed to the dimensions being researched and the range of variation along each dimension.

The objective-subjective distinction is important because research results on the same topic using these different methods are often quite different (Bracken 1971:96-97). Therefore, policy decisions based on research results using an objective approach are likely to be different from the policy decisions based on research using a subjective approach. The inadequacy of policy decisions using the more commonly used objective approach may explain the increase in policy decisions based on public participation (Bishop 1970; Borton, Warner, and Wenrick 1970; Fulton 1971). Programs of increased public participation are more subjective than surveys.

The Louis Harris and Associates survey (1970:13 and 15) asked both an open-ended and a structured response question on the problems people saw facing their community. The two questions, the open-ended being more subjective and the structured response question being more objective, yielded different responses. Harris and Associates (page 16) comment:

The fact that the proportion who mention pollution declines from the volunteered to the aided list is interesting. It suggests that awareness of and concern over pollution may be somewhat inflated by the recent attention government and media have paid to the problem. When actually confronted with what might be the "traditional" problems of taxes, drug use, etc., pollution appears to evoke less concern.

The definition of *traditional* problems were set by the research designers and reflects their point of view and experience with what is traditional. Why would not sex, religion, impersonalness, or any variety of other dimensions have been just as traditional? Obviously structured, e.g. objective, research designs are based on the experience of researchers gained through such subjective approaches of data collection as informal conversations, open-ended questions yielding unexpected responses, and so on.

The second dimension in setting the type of research method is the individual-group dimension. It pertains to who the research discusses. Does the research discuss the attributes of a group, or does it discuss the attributes of individuals?

Robinson (1950) demonstrates that ecological correlations cannot be used as substitutes for individual correlations. "In an ecological correlation the statistical object is a group of persons" (page 115). Ecological correlations, statements about groups, cannot be used to say anything about individuals. To say that 49 percent of the people in Northwestern Oregon thought that water pollution was a serious problem is a statistic about the group, "Northwest Oregonians." The statistic does not tell anything about the individuals. Commenting on Robinson's article, Menzel (1950) implies that the converse is also important, e.g. correlations about individuals cannot be used to say anything about groups. Leonard (1966) summarizes these logical pitfalls in the Robinson and Nosnibor Rules.

*The Robinson Rule:*

When all the variables in a correlation are group variables, the interpretation of that correlation is not a theory about individual behavior.

*The Nosnibor Rule:*

When all the variables in a correlation are individual variables then the theory interpreting this correlation is not a theory of group behavior.

The two dimensions for setting the research method, objective-subjective and individual-group, are diagrammatically represented in Figure 4. The discrete distinctions connoted by the cells are for conceptual clarity. At best research methods can be described as more or

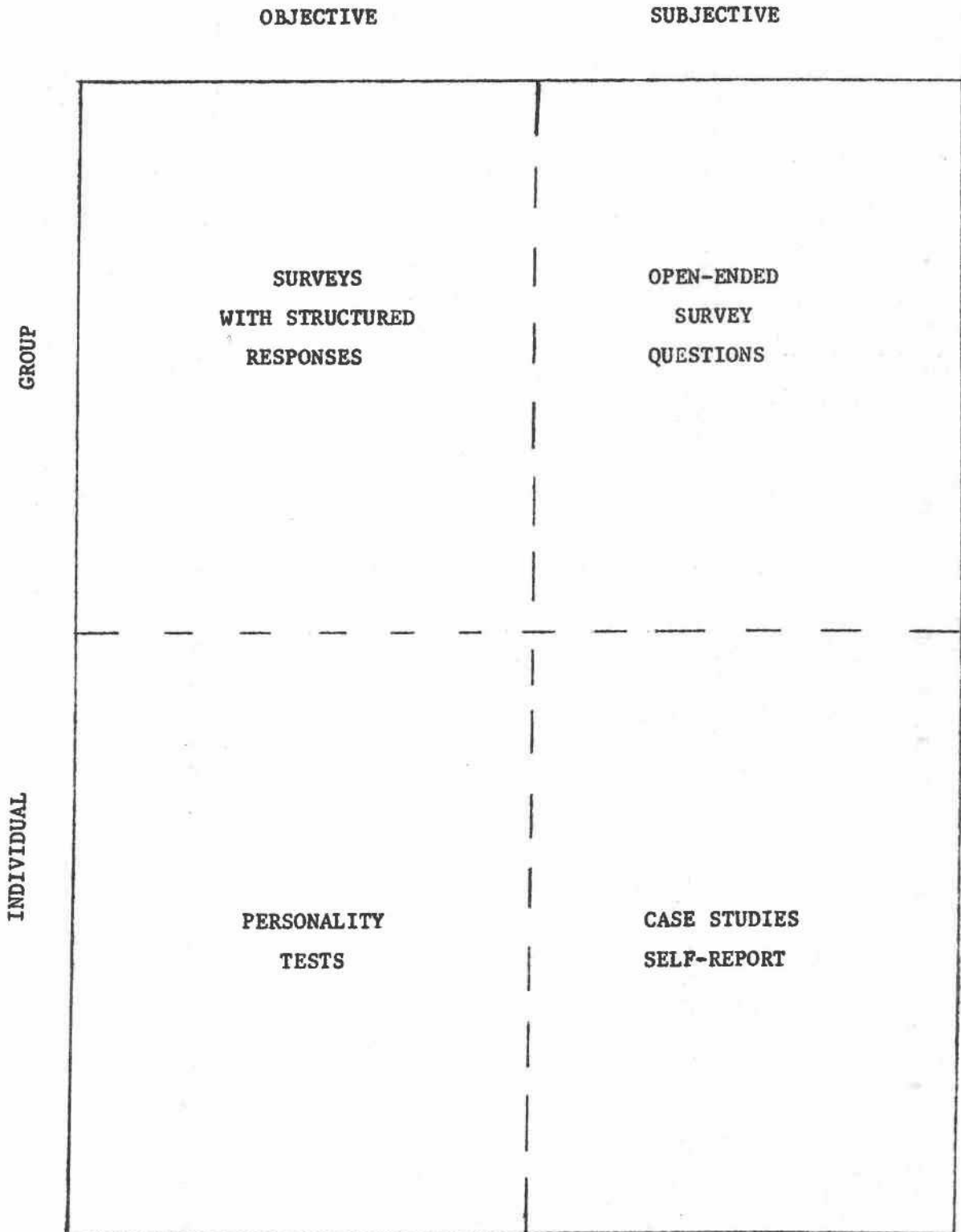


Figure 4. Research Dimensions

less objective or subjective. Along the individual-group dimension distinctions can be made between one individual, many individuals which can be referred to as an aggregate, and a group which would connote a social unit that functions as an integrated whole.

Existing research methods are available which illustrate the nature of the cells in the figure. Objective-individual methods are characteristic of research where the investigator sets the dimensions and the range of variation upon which an individual's behavior or attitude is to be evaluated. Tests such as the Rorschach, Thematic Apperception Test, and various other kinds of personality inventories are examples of survey instruments used with the objective-individual approach. The objective-group method is illustrated by surveys which are composed of structured responses and which are given to representative samples of individuals for the purpose of gauging the attitudes of a population. The indicator used to measure people's feelings toward population and industrial growth (Figure 3), and the word categories used to measure intensity of feelings were examples of the survey tools pertinent to the group-objective approach.

Methods appropriate to the individual-subjective approach emphasize that the informant set the research dimensions and the range of variation. Techniques of self-report, open-ended interviews, and individual case study are appropriate to the individual-subjective method. The group-subjective method typifies many of the public participation programs where groups of citizens are invited to participate in planning. Surveys with open-ended questions are somewhat subjective in that they allow the informants to set the dimensions and range of variation on these dimensions which are appropriate to the topic being queried.

### Surveys and Applications

To illustrate the use of these distinctions two situations were chosen for evaluation. One involved the comparison of survey data on people's attitudes toward growth with observation and interview data. The second situation was the social pressure for action programs to help people. Social pressures push agencies, in this case the Soil Conservation Service, toward helping more people for the same or lower costs. Helping people is however a problem requiring a subjective-individual method where the practitioner knows the specific situation of the recipient of his aid.

#### Survey Data On Growth

The Woodburn and Tualatin survey populations were sorted to obtain the respondents strongly favoring, disfavoring, and neutral with respect to population growth. The two surveys yielded 22 informants strongly in favor of population growth (indicator scores less than 1.0), 40 informants who were neutral (indicator scores of 5.0), and 42 informants strongly against population growth in the community (indicator



scores greater than 9.0). These sub-populations were compared on 19 demographic, social, and attitudinal variables.

As might be expected, those who strongly favored population growth for the community also favored population growth for Oregon and favored industrial growth for Oregon and the community. Those strongly disfavoring population growth in the community likewise were opposed to population growth for Oregon and opposed industrial growth for Oregon and the community. Those in the neutral category remained at a point between the two extremes (the difference between the populations on these dimensions were all significant at the  $p < 0.01$  level).

On the demographic variables age, sex, occupation, and length of residence there were no significant differences between the three populations. Neither being old or young, male or female, professional or laborer, nor being new to Oregon or an oldtimer were related to people being strongly in favor, neutral, or strongly against population growth for the community. With education there was a tendency, although not significant ( $p < .10$ ), for people with education beyond high school to oppose population growth while more people without high school education favored population growth.

On two other variables there were significant differences. One was on the question of whether people had thought about solutions to the environmental problems. Those who had thought about solutions were more likely to disfavor population growth for the community than those who had not (Table 10).

Table 10. Thought About Solutions and Growth

Attitude Toward Growth	Thought About Solutions (percent)	No Thought About Solutions
strongly favor population growth in community n = 22	19	81
neutral about population growth in community n = 40	36	64
strongly disfavor population growth in community n = 42	57	43

( $p < 0.05$ )

The other variable for which there were significant differences was on informant's perceptions of the community. Those who perceived their community as urban favored population growth; those who perceived their community as something other than urban were neutral or strongly disfavored population growth.

Further testing of the urban-rural-suburban trichotomy did not indicate that people classify their community in these census category terms. In a second Albany survey a more subjective approach was used in asking people what type of community they thought Albany, a town of 18,000, was. Instead of presenting the urban-rural-suburban trichotomy the interviewers allowed informants to respond using their terminology. Only 14 percent of the Albany informants used the terms urban-rural-suburban. The most frequently used term was "small town" (36 percent). Other terms used were medium, growing, average, nice little town. There was no consensus for how people thought of their community. Based on the finding that the urban-rural-suburban trichotomy was not particularly meaningful to people in typing their community, the only significant difference which remained was whether people had thought about the problem.

Again observation provided additional support for this finding. Growth has been the policy in the Western United States. Water resource development has been used as a stimulus to growth (Smith and Hogg 1971b). Community leaders were used to evaluating the health of their community in accordance with the rate at which it was growing. The organizations promoting growth had a long history of organization and continually kept before the community the benefits of growth. Obviously, then, only people aware of the problems of growth would be those who had thought about the causes of environmental problems, probed the arguments for growth for their fallacies, and studied the environmental problems enough to be aware of the increasing mass of literature questioning growth. The people observed, privately arrived at these decisions by exposure to the mass media; by discussion with family, friends, neighbors, and fellow workers; by observing their environment; and by evaluating their findings against their own life situation.

Are these survey data adequate to make the interpretations which are being made? Alternate interpretations of these data or questions about the quality of the data can be ventured. The survey instrument may be unreliable and invalid. That is, the survey instrument used might not yield the same results if it were repeated, or the responses to the survey may not be accurate representations of what people were thinking. Further, the survey sample may not be representative of the populations being studied. In fact by comparison with census data the survey population was composed of a larger percentage of homeowners, a higher degree of education, and larger groups of housewives, professional, and managerial work categories. A third criticism may be that the survey questions were too general to be meaningful. Each of these criticisms is appropriate.

Comparing survey data with observation and interview data did indicate that the survey instrument was inadequate in that by striving for objective-group responses the survey did not allow for the openness

of response which would identify the variables most closely related with attitudes toward population and industrial growth. What seems required to understand people's attitudes is not more surveying of an objective-group variety, but more subjective-individual data collection to determine the relevant factors which stimulate people to believe what they believe and then act on these beliefs. Ethnographic study of the Tualatin and Woodburn communities did begin to identify some of these subjective-individual factors. Subjective-individual factors such as being a developer, being on the planning commission, and having a piece of land you own rezoned from single family to multiple family; or having the boundaries of the city totally circumscribe your property, yet your property is left out of the city. Such other subjective-individual factors as being retired, living on a fixed income, having participated in chamber of commerce activities all your life, and believing that growth is good, better explain why people act as they do. As people studied the growth of their community and how this growth had affected their taxes over the past five years, growth took on a different perspective.

#### Action Programs

Social pressures in the early 1970's placed strong pressure on research which would help people and improve their quality of life. A second social pressure during this same period was for large quantities of quantified data. An objective-group method can efficiently meet the latter social demand. Reviewing these social pressures against the methodological dimensions illustrated in Figure 4 and discussed above, indicates however, that the social pressures were at cross purposes. Helping someone is not an objective-group problem, but a subjective-individual problem. Therefore, if research and application of research knowledge is to be effective in helping people, subjective-individual knowledge is more important than objective-group knowledge.

In water resources the program of the Soil Conservation Service, with local technicians translating soil practices into the specific situation of the farm operator, is an example of a subjective and individual program. The technician has to know the farm operator and his situation in order to effectively apply the soil practices. This requires not survey information of an objective-group nature, but rather it requires subjective-individual information about the farm operator who is to apply the soil practices.

With the shift of rural people to urban and suburban areas, the constituency which the Soil Conservation Service serves has not expanded and in many cases the size of the constituent population has declined. This decline was not so much in terms of absolute numbers, but rather the decline was in terms of rates of population change. In Oregon the percent change for urbanized areas was an increase of 40.5 percent, 24.5 percent increase in the central cities, and 65.0 percent increase for the urban fringe. The increase for rural areas was only 3.0 percent (U. S. Department of Commerce 1971b:43). Since the political process is based on the power of constituencies and the power of a constituency is closely correlated with its size, a program cannot be expected to retain a favored

position, especially in situations of limited resources. The Soil Conservation Service looking out for its own interests shifted its focus from farm operators to landowners. Landowners were a much larger population. In the rapidly suburbanizing Willamette Valley where population growth in every county with the exception of Multnomah was greater than 22 percent, suburbanites were a rapidly expanding class of landowners who were potential users of the practices of the Soil Conservation Service. In 1971 the Soil Conservation Service was experimenting with techniques to deal with this larger population of landowners.

Several years of consolidation of services resulted in fewer technicians. This along with the pressure to serve more people forced the SCS program away from the subjective-individual orientation to a more objective-group orientation. What happens to a program which shifts from a subjective-individual to an objective-group orientation?

With larger numbers of people to serve or to determine information about, open-ended questions become too slow and costly to analyze. Structured response questions have to be used to meet criterion of cost efficiency. It is axiomatic that to serve a large population with no change in resources, an agency like the Soil Conservation Service must either limit the population to a size which technicians can handle in the customary subjective-individual manner, or it must develop techniques to serve more people.

This conclusion is predicated on the assumption that a subjective-individual methodology requires the establishment of a face-to-face interaction in which communication feedback between the landowner and the technician can take place so that one can learn to understand the other. We know of no way to help people and not invest the time to know in detail their definition of the problem. The subjective-individual method is costly in terms of time and as a result costly in terms of resources. If helping people is the goal, the relatively more efficient objective-group method will not provide enough detail to be effective; it is too superficial.

Another way to illustrate this point using survey data is to analyze indicator scores at different levels of superficiality. Superficiality, as I am using it, means that the information provided is too general to be useful for applications purposes. For the Woodburn survey on the issue of population growth in the community, the indicator response categories were expanded and collapsed. The results from collapsing, becoming more superficial in order to save time and resources for analysis, did not adequately describe the survey population. When the range of variation was collapsed into five degrees of variation, the distribution of the Woodburn informants' responses approached the shape of a normal distribution. When the degrees of variation were expanded to 10 or 15 degrees of variation, the population divided into subpopulations which very strongly favored population growth in the community, which very strongly disfavored population growth, and which were neutral on the issue of population growth (Figure 5).

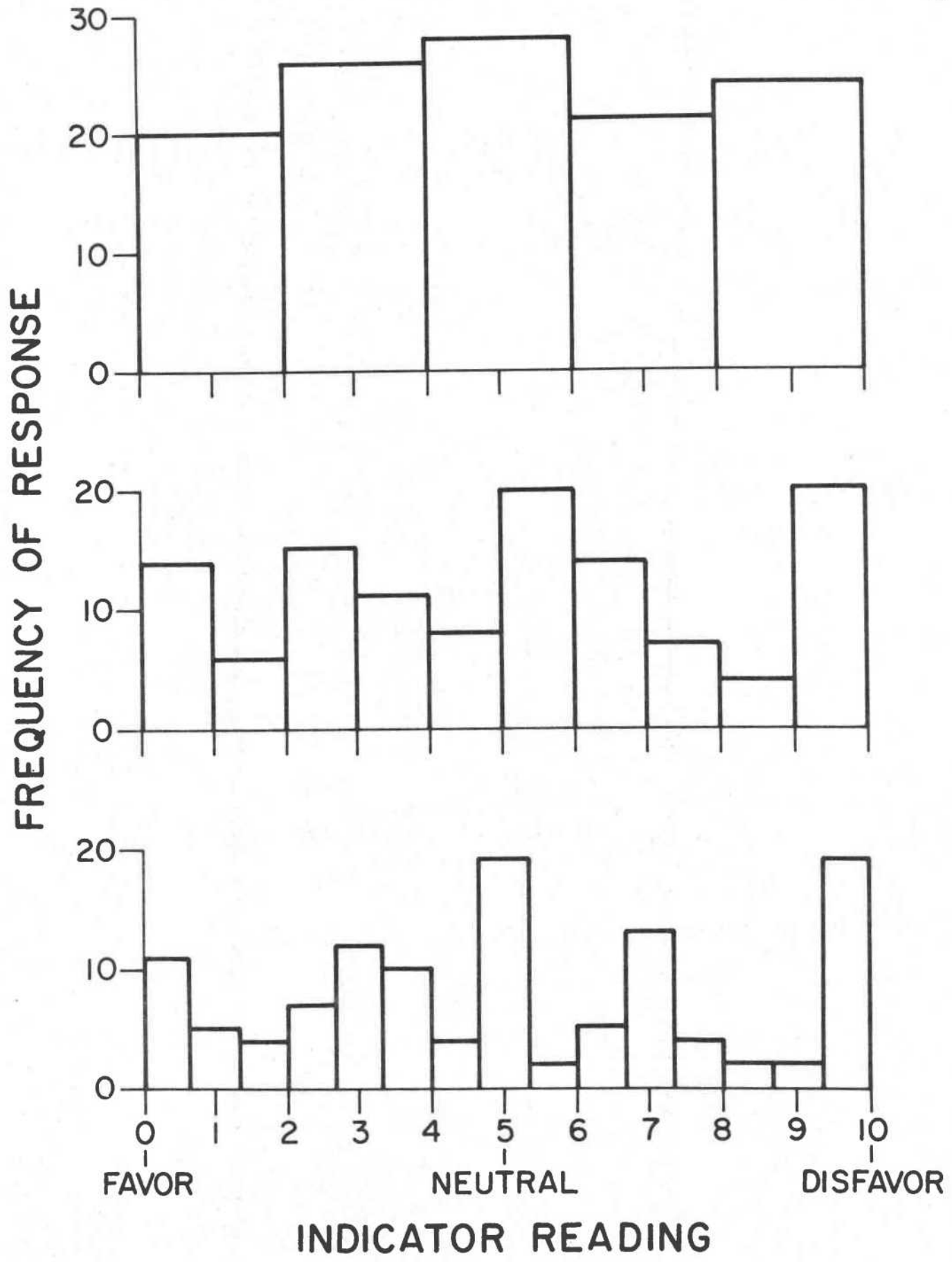


Figure 5. Population Growth Histogram for 5, 10, and 15 Intervals

This configuration, rather than the normal distribution, more adequately correlates with the observations made of how the community operated. Observation showed strong organizational support for growth. People who strongly favored growth participated in city government committees and in business promotion. Interviews and observations detected a group of people strongly opposed to growth. The resistance to growth was not as well organized, nor was it as closely articulated with city government.

The social situation in Woodburn was not one of a normal distribution with the mean at 5.0, but the social situation was one of groups strongly favoring or strongly disfavoring population growth. These groups competed for constituents from the middle ground. At the time of the survey, the variation among these neither strongly in favor nor strongly disfavoring growth was sufficiently diverse that the two opposing positions were at a standoff. This was not exactly the case, because those favoring growth used their positions on governmental committees and commissions to continue population growth.

This information on the effectiveness of some members of the community in managing the decision-making structure came not from the objective-group survey method, but instead from delving beyond that which was superficially apparent and into the structure of the community. This more subjective-individual method showed how people acted in accordance with their self-interest, and how they used the organizational structure to satisfy their self-interest.

Statistically, expanding the degrees of variation to 10 or 15 intervals is questionable because the number in each cell becomes too small to warrant so many categories. The statistical rules caution that the analysis can no longer be considered to be objective-group because the rules of this kind of analysis have been violated. The analysis has moved in the subjective-individual direction.

I am suggesting that the work of the social practitioner, be he or she a Soil Conservation Service technician, or other practitioner, is like that of the individual managing continued community growth; it is subjective-individual. By contrast many research results provide for the practitioner only objective-group data. This places the practitioner in the position of having to do his own research or develop ways of adapting the objective-group data to his needs.

Surveys are not capable of providing the in depth information required to better understand why people believe as they do, and why they act as they do. Surveys are objective-group research methods. I suggest that to understand why people believe the way they do, and to understand why they act the way they do a subjective-individual research method is required. This research method is basically concerned with self-interest.

Applying these findings to public service programs such as the Soil Conservation Service which are increasingly being forced to adopt an objective-group orientation leads to the conclusion that the programs will lose their effectiveness because the information about the people being served will be too superficial to allow for effective applications programs. This is to say that in addition to the ecological costs of growth, there are social costs as well. I know of no short cut to the personal relation to understand people's problems, to identifying the causes of these problems, and to effectively communicate to individuals the treatments for their specific problems.

These data illustrate the utility of self-interest as a stimulant to action. I am suggesting that public activities to be effective must get to the private, personal level. Subsequent sections develop more fully on this point regarding public participation in the Willamette Valley. This point of view is probed further in three related but often unarticulated systems relating to basin water development, water supply and waste water management, and influencing action. Probing of these systems identifies several lemmas pertinent to man to man relationships and the consequences of these in terms of adaptation.

## CHAPTER 4

## BASIN DEVELOPERS

The planners and builders of major water resource projects in the Willamette Valley were the federal public works agencies for water development, the Corps of Engineers, the Bureau of Reclamation, and the Soil Conservation Service. Their efforts were augmented by other federal and such state agencies as the Water Resources Board, the State Engineer, and the state university.

Since 1877, when the Corps of Engineers established an office in Portland, they have been the major public works agency benefiting the Willamette Valley. The Flood Control Act of 1936 was the legislative mandate which authorized the Corps to study, plan, and construct major flood control works in the basin. By 1970 the Corps had spent \$425 million for multiple purpose dam construction, operation and maintenance, and over \$120 million for additional flood control works. In navigation, the other major water resource development activity of the Corps, an additional \$23 million had been spent for construction, operation, and maintenance (U. S. Army Corps of Engineers 1971:42-75).

The programs of the Bureau of Reclamation and the Soil Conservation Service had not spent sums of this magnitude. The Bureau did not begin constructing its first project until 1970. The Soil Conservation Service by the nature of its activities, worked more closely with individual landowners or small groups of landowners. With the passage of Public Law 566 many small watershed projects were undertaken or contemplated.

The Flood Control Act of June 22, 1936 made the Corps of Engineers responsible for flood control. In the Willamette Valley where water is particularly abundant from November to March, the national concern for flood control provided a major new area of development for the Corps. To 1936 the Corps major interest was navigation. The 1932, 308 Report, which was by Congressional requirement a multiple purpose study of water development, covered basin needs for navigation, power, flood control, and irrigation. The 308 Report stated,

Navigation is the most important use of the Willamette between its mouth and Eugene. Power and irrigation development should be accomplished on the tributaries by private interests and local agricultural districts, respectively.

For flood control the report states, "No organized demand for flood protection has been made" (U. S. Congress. House 1932:88).



The Flood Control Act brought about a rapid policy revision. In 1940 a Corps report stated:

The primary object of the Army Engineers multi-purpose project for the Willamette River Valley is to protect this area against the ravages of floods and to conserve such excess waters for beneficial uses as an aid to the development of navigation, power, irrigation, and the reduction of stream pollution (U. S. Army Corps of Engineers 1940:1).

Protection of the valley from the ravages of floods assumed the primary role in planning activities of the Corps. The initial plan for the valley stated ". . . there is urgent need for additional protection against floods" (U. S. Congress. House 1938:12).

Reservoir storage was deemed more feasible than levees on the Willamette River because of the complementary improvements in navigation, irrigation, power development, and stream purification. The annual flood control benefit was estimated at \$1,526,000 with smaller benefits due to enhancement of navigation (\$834,000), irrigation (\$519,000), power development (\$157,000), and stream purification (\$90,000), and the preservation of fish. The report recognized that "complete protection against overflow was impracticable, but partial protection of important areas can be obtained. . ." (U. S. Congress. House 1938:13-14). The Corps recognized and explained their change in emphasis from navigation to flood control, from the 308 Report to the 1938 plan for the valley.

At the time of the preparation of this report (308 Report) federal participation in flood control was based upon its value to navigation. Naturally this policy was reflected in the '308' report and it was not until the enunciation of the Federal national flood control policy in the Flood Control Act approved June 22, 1936, that the Corps of Engineers was authorized to study rivers designated by Congress with a view to Federal construction of necessary flood control works (U. S. Army Engineers 1940:6).

The Corps was not unique in its adaptation to the Flood Control Act. The State, too, made modifications to capitalize on the new national policy. The legislature created the State Planning Board as a fact-finding and advisory body, February 1, 1935. Governor Martin in April of the same year charged the planning board with studying the water resources of the Willamette Valley and with preparation of a development plan. In addition, Governor Martin appointed the Willamette Valley Project Committee with representatives from each county to marshal the public support necessary for implementation of the plan.

The Bureau of Reclamation had conducted surveys of irrigation potential in the Willamette Valley as early as 1916 as it looked for new areas in which to implement the provisions of the National Irrigation Act. The climatic pattern of the valley, which is dry in the summer growing season and wet in the winter dormant season, makes for substantial irrigation potential (Figure 6). In fact the 1916 report concluded that "100,000 acres could be irrigated to advantage" (Whistler and Lewis 1916: 71). In the Willamette Basin Task Force study of 1969 the Bureau projected one million acres would be in irrigation by the year 2020, a four-fold increase from the nearly 250,000 acres irrigated in 1970, this represented 73 percent of the potentially irrigable land.

The first irrigation project in the Valley was started in 1909 by 22 local farmers who organized the Mollala Irrigation Company, a non-profit company. This project, just over 1,000 acres, was still in operation in 1971. Other more speculative developments were started at the same time and have not had the continuous successful operation of the Mollala project. The 1930's was a period of a high frequency of project initiation. The shift from small dairy farms, requiring irrigated pasture, to larger farms, often quite separate, resulted in more individual development of irrigation in the 1940's. After World War II many small farmers took industrial employment, retaining their farms for residence. This reduced the pressure for small farm irrigation development (Shearer and King 1965:44-69).

Before the formation of the Tualatin and Monmouth-Dallas irrigation districts in order to contract with the Bureau of Reclamation for irrigation development in the 1960's, individuals, speculators, groups of farmers, and federally initiated programs were the major purveyors of irrigation development. The Bureau did plan a sprinkler irrigation project near Canby as early as 1938, but nothing was done about it because of lack of local interest. This continued to be the case into the 1960's (Shearer and King 1965:45 and 54). Financing for the local effort came from banks, individual farmers, developers, the Work Progress Administration, the Farmers Home Administration, and its predecessors the Resettlement Administration and the Farm Security Administration.

In spite of early and continuing interest, the first Bureau sponsored multiple purpose project in which irrigation was a major feature, did not go to construction until the Tualatin Project which was funded for construction in 1970. Irrigation development in the Willamette Valley since 1909 was a local affair, sponsored by local landowners, acting in accordance with some of the major Corps of Engineers sponsored flood control projects.

#### Public Involvement

Individuals and organizations cannot exercise their self-interest exclusive of all other individuals and groups which make up the social system of which they are a part. The Corps, the Bureau, and the Soil Conservation Service had to develop or find constituencies which had the

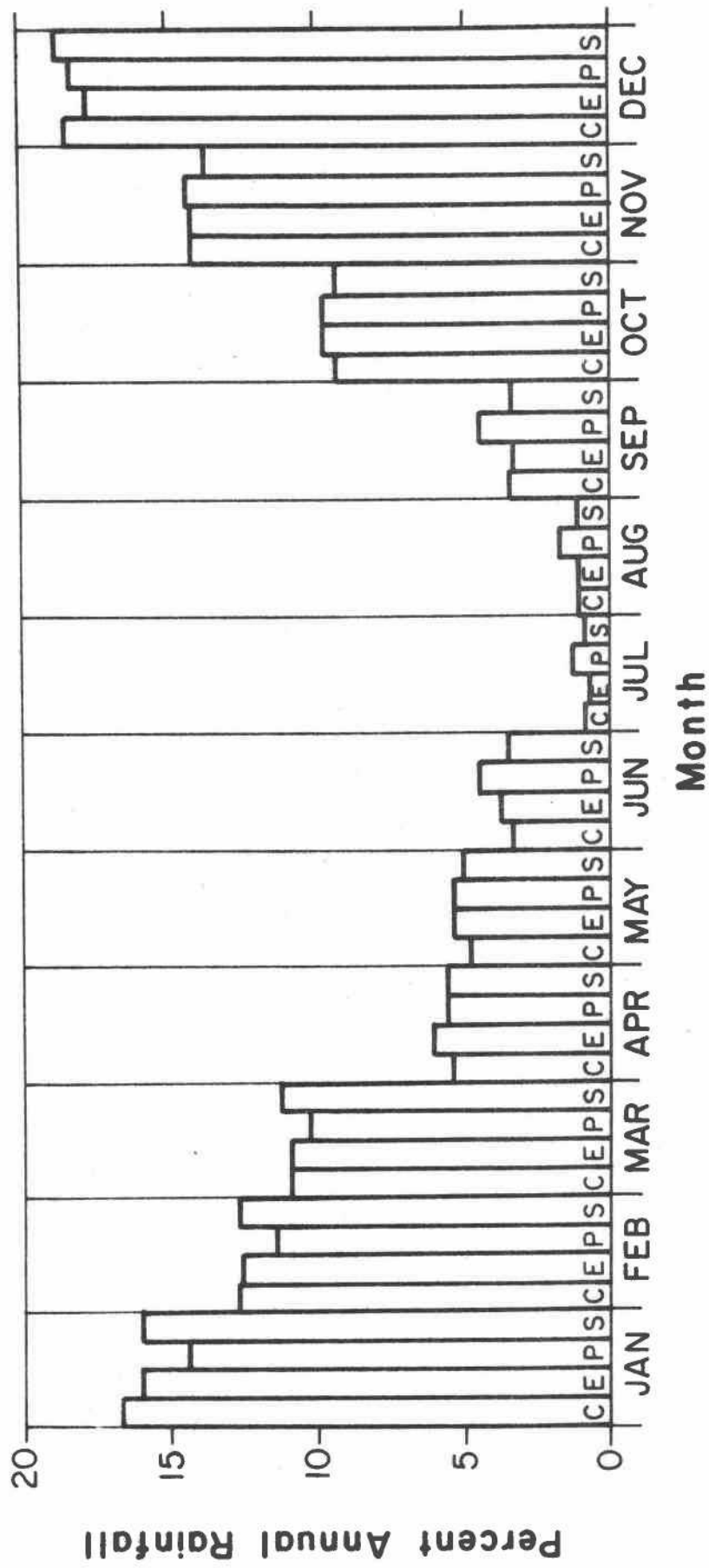


Figure 6. Climatic Patterns, Corvallis (C), Eugene (E), Portland (P), and Salem (S)

same or complementary self-interests. Governor Martin's Willamette Valley Project Committee shared with the Corps of Engineers the desire to see federally financed multiple purpose projects constructed for the Willamette Valley under the provisions of the Flood Control Act. In this situation the Corps and the Willamette Valley residents had the same interests.

The public involvement techniques of the Corps, the Bureau, and the Soil Conservation Service show contrasting procedures for determining which self-interests are complementary to the missions of these water development organizations and the ways in which conflicts over competing self-interests have been worked out.

### Corps of Engineers Public Hearings

The public hearing was one of the major public involvement tools used by the Corps of Engineers. On navigation issues the Corps held hearings as early as 1870. With evolution of the flood control mission, hearings began in 1937 to inform the public and gauge the level of public support. For formal public hearings the Corps prepared a transcript of oral statements.

The public hearing records since 1945 were available in the files of the Portland District. The set of public hearings from November 8, 1946 through June 2, 1971 were reviewed for general content, issues, levels of public participation, and factors which appeared to affect public participation (Table 11). Five Corps hearings and one hearing conducted by the State Highway Division regarding scenic waterways status for the South Santiam above Foster reservoir pool were analyzed in more detail. The content of oral and written statements made by people representing organizations were analyzed for statements about population and economic growth, project benefits and costs, kind of management, man's relation to nature, and favor or disfavor for the project. To supplement and check on the hearing statement content analysis, the proceedings of all hearings since 1969 were observed.

Public hearings were not the only source of Corps contact with the people of the Willamette Valley. Corps employees of the Portland District were local residents and like other citizens were aware of public sentiment in the state as this was expressed through the mass media and public actions. The Corps also received letters, visits, and telephone calls from citizens and citizens' groups interested in the many facets of their program. Those disapproving as well as approving the Corps policies and practices were among the ones making these contacts. The Corps received comments from citizens telling where the next dam should be constructed and comments from citizens that no dam should be constructed. In actuality those citizens and citizens' groups with very strong feelings for or against actions were the ones most likely to express themselves directly to the Corps. The hearing transcript record is, then, but one segment of the range of Corps public contacts.

Table 11. Public Hearings

Date	Location	Attendance <sup>(1)</sup> Oral Statements <sup>(2)</sup>	Area
*06-02-71	Corvallis	190/20	Marys River
*01-27-70	Halsey	220/17	Calapooia River
*09-18-69	Sweet Home	160/19	South Santiam River
*04-11-63	Oregon City	120/25	Willamette Basin
04-09-63	McMinnville	150/19	Willamette Basin
04-14-63	Albany	120/25	Willamette Basin
04-02-63	Eugene	140/36	Willamette Basin
03-29-62	Clackamas	90/17	Clackamas River
*03-27-62	Halsey	170/22	Calapooia River
02-28-62	Scio	310/36	Thomas Creek
03-11-59	Portland	200/54	Columbia Basin
12-10-58	Shedd	100/07	Calapooia River
06-25-57	Foster	180/22	South Santiam River
11-20-56	Dallas	100/29	Luckimute River, Rickreall
07-13-56	Portland	180/43	Columbia Basin Creek
04-25-47	Salem	150/40	Willamette Basin
04-24-47	Eugene	200/51	Willamette Basin
11-09-46	Lebanon	30/43	South Santiam River
11-08-46	Vida	120/27	McKenzie River
12-20-45	Hillsboro	170/26	Tualatin River
06- -44	Portland	NA/NA	Navigation
02- -44	Eugene	NA/NA	NA
12- -37	Salem	NA/NA	Willamette Basin
02- -37	Salem	NA/NA	Willamette Basin

Table 11. Public Hearings  
Continued

Date	Location	Attendance <sup>(1)</sup> Oral Statements Other Pertinent <sup>(2)</sup>	Area
*11-17-71 (Highway Division)	Sweet Home	531/58	South Santiam River (Scenic Waterways)
05-20-70 (Pacific Northwest River Basins Commission)	Salem	80/Staff	Willamette Basin
11-17-61 (Water Resources Board)	Salem	90/39	Willamette Basin Task Force Plan

- 1 Rounded to the nearest 10. These are counts of those filling out attendance cards. It is possible to go to a hearing without completing a card although the Corps procedure was designed to have everyone fill out a card. Some counts include Corps technical personnel at hearings others do not.
- 2 These tabulations are for individuals. Note an individual may make several statements. Does not include statements made by hearing officer or individuals conducting the hearing.
- NA Data not available.
- \* Hearings for which statement content was analyzed.

Public hearings were scheduled for two purposes--the consideration of a project by local people and to get people's opinions on the general course of water development planning. The first hearings in 1937 were to consider what should be the nature of the Willamette Valley Project. The plan presented in 1940 called for seven dams--Fern Ridge, Cottage Grove, Dorena, Lookout Point, Detroit, Quartz Creek, and Sweet Home. These dams had a total storage capacity of 1,345,000 acre feet. The first three projected dams were completed in 1941, 1942, and 1949. In 1947 new hearings were held to revise the plan, incorporating changes which occurred during World War II. Lookout Point and Detroit dams were modified when two dams were required to complete each project, the major flood control work and re-regulating reservoir. Construction was completed on these in 1953-54. Public sentiment against a dam on the main-stream of the McKenzie River resulted in the Cougar and Blue River dams being built on tributaries to replace the Quartz Creek Dam. Sweet Home had grown sufficiently after World War II that the Sweet Home site was socially and economically unfeasible, and Green Peter and Foster were built to replace it. Cascadia, a third dam to complete control on the South Santiam, was first delayed because of public sentiment to save historic Cascadia Park and later delayed because of public questioning of its benefit-cost ratio and the suggestion that the highest and best use of the South Santiam was as a scenic waterway. Also authorized as a result of the 1947 review of the plan were Fall and Hills Creek dams.

In 1963 a second revision of the 1940 plan was undertaken at the request of the Corps. This review was to be an interagency task force called the Willamette Basin Task Force. When the revised plan was released in 1970, 13 Corps dams had been completed in the Willamette Valley. The total storage capacity like the numbers of dams had doubled from the original plan to 2,451,900 acre feet which meant that storage capacity was not quite 10 percent of the average annual flow of the Willamette River. The Willamette Basin Task Force plan called for doubling the storage capacity again with the construction of 94 new reservoirs. Most of these, 69, would be small watershed projects sponsored by the Soil Conservation Service. Of the remaining 25 reservoirs, 14 were Bureau of Reclamation sponsored, and 11 were Corps sponsored.

Review of the behavior at public hearings held to gain public response to specific projects indicates that self-interest was a major factor stimulating action (Figure 7). One indicator of self-interest was the size of the audience. Two hearings stood out as having significantly larger than normal attendance--Thomas Creek, 1962, and Scenic Waterways, 1971. Review of the hearing transcripts did indicate issues which sparked public attention. A second indicator of problems regarding a development plan was the number of hearings required to determine public response. Hearings to plan water development on the Calapooia were held in 1958, 1962, and 1970. The project was redesigned after the 1962 hearing because of lack of public support.

The purpose of Corps hearings is illustrated in this exchange between a citizen and the Corps hearing officer at the June 25, 1957 hearing at Foster (U. S. Army Engineer District, Portland 1957:31-32).

# WILLAMETTE RIVER BASIN OREGON

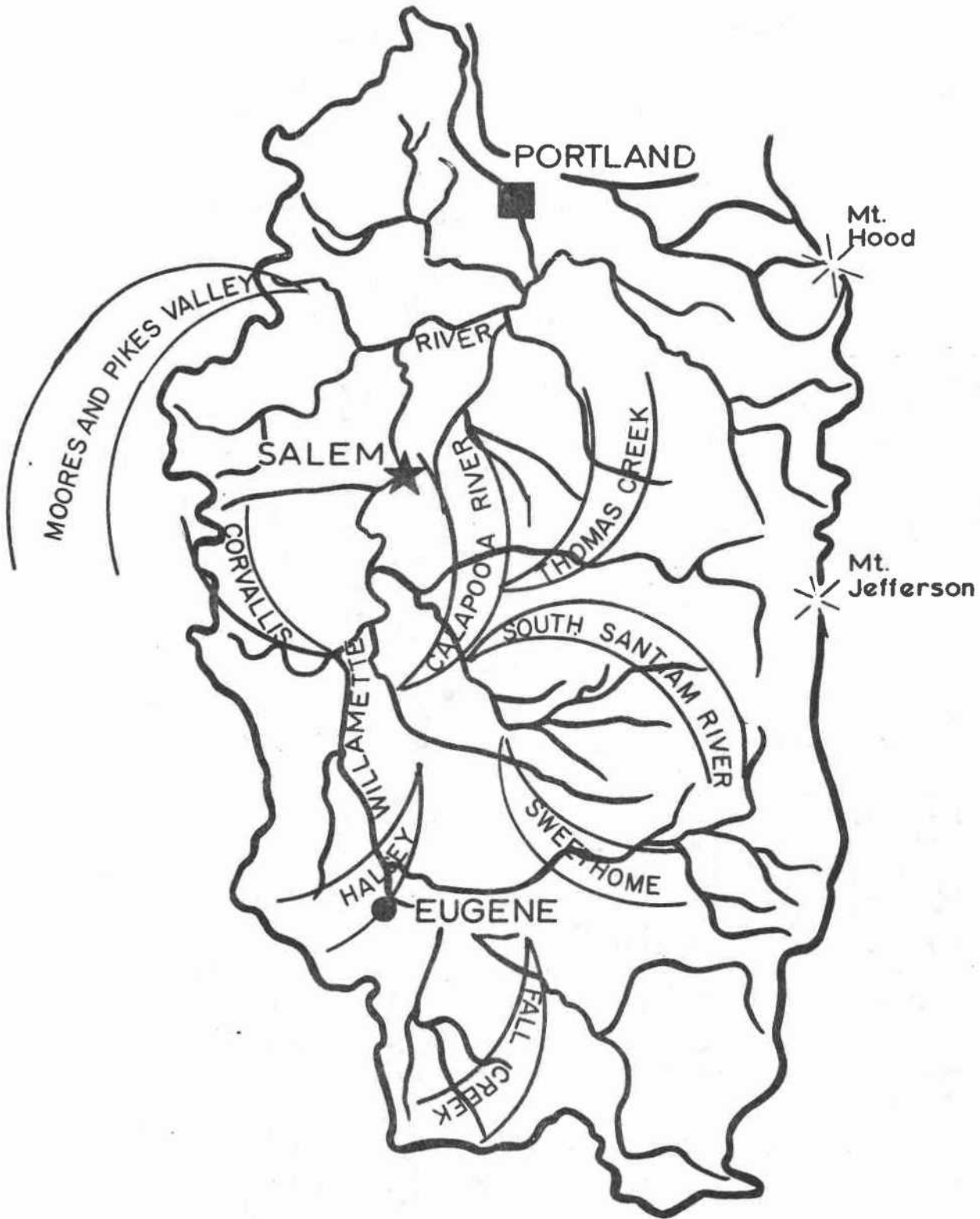


Figure 7. Proposed Water Development Sites



Citizen: . . . I never was a man to stand in the way of progress. If progress comes to our community, as long as they take care of me and provide me with the money I've been spending so that I can get a location elsewhere, equal, I don't feel that I should stand in the way of progress.

Hearing Officer: Well, sir, we have already determined that on an engineering or economic basis the Foster plan is preferable and is more desirable, but we have to give very serious weight to the overall evaluated desires of the local interests most affected by the project, not only because we're required to do that by law, but because it has been the policy of the Corps of Engineers to go to the grass roots level in determining the desirability of projects which were not desired by the majority of the local people.

*Thomas Creek* hearing, held February 28, 1962 at Scio to consider flood control for Thomas Creek, was attended by 319 people. There was strong support for a dam organized by the Thomas Creek Improvement Association composed of people below the Jordan dam site; and strong opposition from the Jordan Taxpayers Association, a group of people who lived in the area to be flooded by the proposed dam. Two competing self-interests were the basis of the conflict. Those people living below the proposed dam saw the project as improving their situation. The dam would reduce their losses from floods, provide irrigation water, and improve drainage. Those people living in the area to be flooded saw the project as unnecessarily uprooting them from their homes.

The Jordan dam site was suggested as a possible future project in House Document 531 (U. S. Congress. House 1950:1826). The report stated:

Residents within the reservoir area and vicinity have voiced strong objections to construction of a reservoir at the Jordan site, and therefore, the construction of a dam at this site in the near future is unlikely.

Thus, the Jordan site had been under consideration for better than 15 years. A Thanksgiving flood in 1960, and a second flood two and a half

months later triggered new interest in a dam from the residents along Thomas Creek. A petition with over 500 signatures was sent to the Oregon Congressional delegation requesting funds to study flood control.

At the public hearing the Thomas Creek Improvement Association presented a comprehensive report detailing the evidence of flood problems. The Thomas Creek Improvement Association report covered flood control and irrigation needs, water supply and water quality, recreation, fish and wildlife, drainage, and business and industrial aspects of the project. The report was substantitive and contained much data from the experience of downstream residents. The chairman of the association cited his own loss of 35 acres of mint at \$17,000 per year, projected over seven years, totaling \$119,000 (U. S. Army Engineer District, Portland 1963b:177).

The Thomas Creek Improvement Association was supported in their request for a multiple purpose reservoir project by the North Santiam Chamber of Commerce, the Albany Chamber of Commerce, the North Santiam and Jefferson Lions Clubs, the North Santiam Sportsman's Club, the East Linn Soil Conservation District, the River View Farmer's Union, and the South Santiam Water Control District. In addition, the business and industrial section of the report was supplemented by statements from Grange Oil Company, Stokley Van Camp Company, Pacific Power and Light, Moore Irrigation Company, Albany Frozen Foods, and Swift and Company. Each saw increased production and sales from the project. An appraiser from Strout Realty suggested that land which received irrigation water from the project would double in value.

The support for the project from businessmen did not go unrecognized by the Jordan Taxpayers Association whose spokesman observed:

We are not hostile to the pressure groups proposing this dam--though we question the purity of purpose. . . . is irrigation and flood control the real purpose or do we have a blown up view of real estate, insurance, or what have you. . . speculators (*ibid.*:224).

The Jordan Taxpayers Association, the people living in the area to be flooded by the dam, were not against flood control. They only wanted the flood control works to be above their farms rather than inundating them. The Jordan Taxpayers Association represented a close knit, Catholic community of 40 families.

The Jordan people argued that 1,700 acres of land would be lost if the reservoir were constructed. Of this total 1,000 acres were cultivated and half of this was irrigated. To the Jordan people the loss of good farm land was greater than the potential gain of 4,500 irrigated acres. They agreed that flooding was a problem, but not all that great--"in the past 50 years there has been much damage there, but Scio is still there" (*ibid.*:166).

Each group present at the hearings was attempting to optimize its own self-interest. The Jordan Valley people stood to have their

property inundated and were likely to have their community split by a reservoir. From their view the costs of the project far outweighed the benefits. Many of the families in the Jordan Valley had lived there all their lives. One man's eight children each had farms in the area.

The downstream property owners thought in terms of how they might gain from the project. The downstream people identified the problems they were having which would be alleviated by the project. They saw the project as an opportunity to optimize their own advantage (*ibid.*:186-211).

. . . there was \$4,000 spent on my farm last year because of no flood control.

The time has come without water you can't make a living on a 100 acre ranch.

I will not be using the water but feel that others will use it--or my sons growing up, who will maybe be farming by then.

For the first time last year I had to leave my home because of high water.

These statements of people in the Thomas Creek Improvement Association illustrate the importance of individual self-interest as a requisite for action. The farmers below the dam site should not, however, be thought of as selfish. Self-interest is an adaptive technique, a way of adjusting to your surroundings. People acting in accordance with their self-interest are short-sighted; that is, they are not oriented to looking for the radiating impacts of their actions. This is not to say that at times selfishness might be an important ingredient for adaptation.

The Thomas Creek farmers were subject to other pressures which some identified in their comments. One was the economic plight of the small farmer in an economic system where great verbal attention was paid to what was needed to make farming a realistic option in the face of agricultural surplus. One farmer identified the problem (*ibid.*:200):

With raising prices of everything a farmer must buy (including taxes), he must have water to grow a profitable crop.

Another identified the link between watershed management and flood control (*ibid.*:209):

The loss from flooding increases with each "high water" and as the timber is cut from the watershed we can expect higher losses.

The people of the Thomas Creek Improvement Association and the Jordan Taxpayers Association were acting, primarily, based on their own self-interest. They were not concerned with broader issues such as the national income account or environmental quality beyond the local area. They saw a local solution to a local problem.

Even the state and federal agencies making statements were concerned with "sales of any needed timber involved in reservoir clearing and road construction, recreation development, relocation of logging roads, access and timing of projects" in the case of the Bureau of Land Management (*ibid.*:172). The wildlife agencies were concerned with the steelhead trout, spring chinook, and coho salmon runs as well as other fish and wildlife. Each, then, was expressing its organizational self-interest.

The local people both of the Thomas Creek Improvement Association and the Jordan Taxpayers Association saw only local community conflicts and issues. Those wanting the project talked in terms of benefits; those not wanting the project talked in terms of costs.

*The Calapooia.* Three Calapooia River hearings held in 1958, 1962, and 1970 indicate a situation in which local people refused to pay the cost of benefits which would accrue to them. This refusal brought about a redesign of the Holley project. The Holley project was authorized in 1950. The authorization required that local beneficiaries make a cash contribution for channel improvements which would provide drainage benefits to their land. At a 1958 Shedd meeting on the project local people expressed the desire for no work to be done on the channel improvement portion of the project. Farmers who were going to have to pay the channel improvement costs were opposed to any personal costs; they felt through soil bank and other programs they had already "contributed" enough. The following were representative comments (*ibid.*: 114-121).

. . . I feel that we should ask the government and all of the people to participate in the improvement of the channel. . . .

River work should be financed by the federal government.

Opposed to any personal expense.

Definite need for federal aid.

In addition, 194 signed a petition which specified that, "The work of clearing, snagging, straightening, and maintaining to be done by appropriation and not on a participatory basis with the adjoining farms."

The conflict did not, however, seem to be only an attempt to get the federal government to pay all the costs of the project with no local

contribution, although that was one aspect (Smith and Hogg 1971a). Testimony at the 1962 hearing indicated that among the farmers themselves there was insufficient complementarity of self-interest to get participation by all property owners in the channel improvements. Some farmers were undertaking channel improvements at their own expense; others were taking advantage of Soil Conservation Service programs; one farmer stated that he preferred the flooding saying (*ibid.*:120):

. . . about floods carrying the top soil away--a flood is what saves the top soil. It deposits the silt on the land that it overflows. If you keep it within the banks, that's when you lose all your top soil. The people I have talked to who live on the Willamette River, they claim when the river is at bank height is when it does the bad erosion. In its flood stage it don't cut banks but when it is held at bank level and it seems like when they let the dams out, why, it holds it at bank level and they get a bad cut in the bank; worse than they did before they ever had any kind of controls.

For channel improvements to work on the Calapooia everyone had to participate. It was clear to the farmers desiring channel improvements that not all would participate. Thus, as much for alleviating personal costs as to get the job done, those who wanted the channel improvements turned to the federal government.

As with Thomas Creek project, the Brownsville Chamber of Commerce sided with the developers and organized a presentation in support of the project which included supporting statements from the Albany and Linn County Chamber of Commerce, Brownsville Jaycees, cities of Brownsville and Albany, the county judge and clerk, the Linn-Lane Soil Conservation District, and the Willamette Basin Project Committee.

*Scenic Waterways.* This hearing which drew the largest attendance, 530, and the largest amount of commentary, was not a Corps hearing, but one held by the State Highway Division. The hearing was held at Sweet Home in November, 1971 to consider scenic waterway status for 24 miles of the South Santiam above the Foster reservoir pool. Typically one third of those making oral statements at Corps public hearings were from state and federal agencies. Significant in the scenic waterways hearing was the absence of any testimony from state and federal agencies.

The reason for the lack of formal governmental participation at the hearing was in part due to the fact that the Water Resources Board held veto power over the scenic waterway proposal. All scenic waterway requests were first studied by the Parks and Recreation Section of the State Highway Division, then forwarded to the Water Resources Board for approval, and finally sent to the governor for final approval. The Water Resources Board was known to favor construction of Cascadia Dam over the scenic waterways proposal.

The most unique aspect of the hearing was the number of people giving testimony. The absence of basin developers was compensated for by an exceedingly large individual response. Over half of those giving testimony spoke as individuals and not for organizations. In most hearings two thirds of those giving testimony or submitting statements represented organizations. Of the 152 written statements submitted only 10 percent were from organizations. Ninety percent were statements prepared by individuals. This was far greater than any previous hearing. Public participation in every phase of the hearing was significant, showing the highest level of public involvement observed in any hearing.

Participation in the hearing consisted of two major contingents. A large contingent of outsiders, mostly from Corvallis, came to strongly support scenic waterways status. A larger contingent of local people, most of whom opposed scenic waterways status, came to express their dissatisfaction with the outsiders meddling in local affairs. One local resident put the issue this way (Oregon. State Highway Division 1971: 24)

. . . we are being victimized by a bunch of professional protestors that I would very easily describe by--kind of like my dog, "Bennybone." He is not a college man or anything like that but he's pretty slippery and he's pretty smart. Now when I turn him out for his dirty work, he don't go next door; he don't go across the street; he don't even go in the neighborhood; he goes out of the neighborhood and he is pretty well thought about around home.

The Sweet Home people, many of whom were associated with the lumber industry, were overtly hostile to the outsiders, many of whom were professionals from the state university.

Strong feelings on the issues involved in scenic waterways status stimulated the outpouring of public sentiment. The local residents saw the discussion of scenic waterway status as a plot by outsiders to stop construction of Cascadia Dam. They saw those pursuing the scenic waterway status as preservationists who were using the scenic waterways law to place more controls on the timber harvest which was the mainstay of the Sweet Home area economy. Local people saw outsiders as causing them to lose their jobs, preventing the improvement of Highway 20 to up grade it to the status of a major east-west thoroughfare, and as attempting to place limitations on how local people could use their property.

The scenic waterways law was drafted with many of these local concerns in mind. It recognized the rights of the private landowner and identified compatible kinds of development along the scenic waterway. The law did not restrict highway improvement; this was more restricted by the availability of funds and the level of usage of Highway 20. The law did limit timber harvest within one quarter mile on either side of the stream. For the South Santiam this was 7,952 acres. The limitation,

however, was only that forest crops be harvested "in such a manner as to maintain as nearly as reasonably is practicable the natural beauty of the scenic waterway" (ORS 390.845). Much of the land had voluntarily not been logged as a result of a previous request of the State Highway Division.

The local people present at the hearing did not understand the provisions of the scenic waterways law. Only one year prior to the hearing they had had a chance to express themselves when the Scenic Waterways Act was taken before the voters in a statewide initiative. The voters of the city of Sweet Home approved the Act, 506 to 424. The act failed to receive approval from voters in the area around Sweet Home, 411 to 527. Cascadia voters disapproved of the act by 42 no votes to 29 yes. By contrast Corvallis voters passed the Scenic Waterways Act by a two to one margin.

The local people interpreted the scenic waterway question as outsiders attempting to impose their will on local interests. They evaluated this in terms of their jobs, in terms of their ideas about private ownership and the rights of the landowner to develop his property, and in terms of a threat to the local economy. The major support for the scenic waterways proposal came from outside the community, particularly from Corvallis.

Two factors lead to the heavy Corvallis support. One was the access to the Cascades for Corvallis residents was through Sweet Home along Highway 20. East of Sweet Home, Highway 20 paralleled the South Santiam and many of the rapids, pools, and river scenes were visible from the route. Corvallis residents used the South Santiam for water based recreation and most were more familiar with it from trips into the Cascades along Highway 20. The second factor stimulating participation by people from Corvallis was the issue of Cascadia Dam. Corvallis groups, the Marys Peak Chapter of the Sierra Club and Citizens for a Clean Environment, had led the opposition to construction of Cascadia Dam. Scenic waterways status was one way to assure that Cascadia would not be constructed.

The Marys Peak Chapter of the Sierra Club prepared a very detailed study of the scenic qualities of the South Santiam and its value as a scenic waterway. One of the chief values of the South Santiam was its proximity to the large population centers of the Willamette Valley. Much of the data developed by the Sierra Club was included in the *Scenic Waterway Study* prepared by the Parks and Recreation Section of the Oregon State Highway Division (1972).

The Corvallis people, in their testimony, emphasized the scenic qualities of the South Santiam and the value which it would have to people like themselves as a free-flowing river. Their view was focused more broadly than the Sweet Home residents. The Corvallis people saw the South Santiam as the last major free-flowing river left in the Willamette Valley. They did not perceive themselves as attempting to lock up natural resources. They were concerned with preserving options, sound

management in harmony with nature, and with the recreation and scenic value of the South Santiam.

To view the scenic waterways hearing as a group of outsiders attempting to impose environmental consciousness on local people is conceptually neat and generally representative of the situation. As the specific testimony is reviewed, however, the statements reflect that most people were responding in terms of their own experience and life situation. Neither group was homogeneous in either favoring or opposing the scenic waterway status. Hearing comments illustrated self-interest as a determinant of action (Oregon. State Highway Division 1971:15-35).

But going back to our property as I said we intended to develop it.

. . . I feel as President of that corporation up there, with almost a million dollars a year annual payroll, that we in no way could stay in business and suffer the harassment of the Scenic Waterways Act.

If this scenic waterway goes through, I will have no property that I can really claim my own on the southside of the river. But I will have a little left according to the distance on the northside. I am surprised. I never thought that I would live to see the day when a person or a group of persons would want to come in and take my American rights away.

The most outspoken local resident favoring scenic waterways status said (*ibid.*:28-29):

I was invited to this town by a member of the Linn County Chamber of Commerce. I purchased some land from them and was assured that I would be able to stay here and spend the rest of my life on this spot right there--I'm not sure what they are a little angry right now.

I believe the value of this scenic waterway would be more than esthetic. As a man who has spent some 15 years in advertising in the Chicago area, I can attest to the value of a scenic waterways designation as a means of advertising this area and promoting a source of income that will never diminish and only increase.

The speaker was a fly tier by occupation who obtained his livelihood from the free-flowing nature of the South Santiam.



The local conservation group, which opposed the scenic waterway designation, objected to being stereotyped with the environmentalists. The speaker for the Santiam Fish and Game Association said (*ibid.*:19):

It has been stated in the paper many times that conservationists and environmentalists are in favor of maintaining the South Santiam River as designated as a wild river, but may I assure you that not all good conservationists and environmentalists are of that opinion.

The hostility from Sweet Home area people was such that speakers from outside the region felt compelled to justify the intensity of their personal experience with the river. Thus, many of their statements related personal experience with the river. They returned challenges to the local people by pointing out that "sometimes beauty close at hand goes unheeded in the face of pressing economic considerations" (*ibid.*: 20), and they challenged the local people on their greed (*ibid.*:22):

We even heard one gentleman who is opposing establishment of a scenic waterway on the South Santiam even though his land would be flooded out by the Dam. We suppose the reason is that if the River is left as is, he can subdivide his land. If it is flooded, he can sell it to the Corps of Engineers.

These statements indicate that there were two opposing groups at the hearing composed of people acting in accordance with their experience and life situations (Table 12). Most local people favored growth, the exercise of rights of private ownership, and the utilization of natural resources for economic gain. Most outsiders were opposed to growth, emphasized the responsibilities which go with private ownership, and were opposed to the exploitation of natural resources for solely economic gain.

Overall the patterns in the statements were typical of the other Corps hearings I have discussed. Local city officials along with local chambers of commerce, businesses, and industries favored the construction of Cascadia Dam and opposed the scenic waterways status. The opposition to Cascadia Dam and support for scenic waterways status came from environmentalist groups based outside the South Santiam River Basin.

*Stimulating Expectations.* One other phenomena of Corps hearings was that they stimulated people's expectations. This was particularly evident at the Cascadia hearing held in Sweet Home in September, 1969. Cascadia Dam was authorized for construction in 1962. It was part of the three dam alternative to the dam which was originally planned for the Sweet Home site. Cascadia was first proposed in the revised Willamette Valley plan of 1950. For 20 years the residents of Cascadia had been faced with the imminent construction of a dam.

Table 12. Scenic Waterways Status for South Santiam

All Participants <sup>(1)</sup>		Favor	Oppose	
		(percent)		
Oral Statement Hearing		41		59
	n = 58			
Cards Submitted at Hearing		29		71
	n = 113			
Letters		68		32
	n = 152			

Community <sup>(2)</sup>	Favor	Oppose	Reference to Cascadia
	(percent)		
Local <sup>(3)</sup>	29	71	93
	n = 28		
Outsiders Corvallis-Philomath	97	3	74
	n = 39		
All Others	83	17	59
	n = 46		

1 Oregon Highway Division. Parks and Recreation Section.

2 Based on written statements in hearing records.

3 Includes Sweet Home, Cascadia, Lebanon, and vicinity.

The site proposed for the dam was to inundate the historic Cascadia Park along with the unincorporated community Cascadia. Construction was held up after authorization because of sentiment for saving the park. While construction was held up, two events made the relocation of the dam downstream possible. One was the 1964 flood which "nearly tripled the previous estimates of potential flood damages and flood control benefits for Cascadia" (U. S. Army Engineer District. Portland 1969:3). This allowed for more flexibility in siting. The

second event was the waiving of a previous requirement for fish passage facilities. Expansion of the Foster fish hatchery was now considered acceptable in lieu of the fish passage facilities. This made a dam partially inundated by the Foster pool a possibility. Before with the fish passage requirement it was not because the fish had to be attracted to passage facilities by moving water.

Subsequent delays to the construction of Cascadia Dam were discussed above in the scenic waterways hearing. These delays increased the frustration of local property owners who found selling their land difficult and improving their property an expense for which the return could be minimal. The frustration was summed up in the statement of one Cascadia resident (*ibid.*:32).

I don't want the dam but since there doesn't seem to be anything a mortal person can do about it--when will it be built and who will have to move and relocate? When? When? When?

A resident facing the Holley project stated (U. S. Army Engineer District. Portland 1970:16):

The dam will come right through my property . . . . It has been in the works for 20 years, and the property within this area of the dam has steadily depreciated until now it is almost valueless to a prospective buyer. . . . This summer I advertised 4 acres of river frontage; approximately 16 prospective buyers came to look. When the Holley Dam was mentioned, they all left. However worthless my property is, the taxes on my home were raised \$80 this year; yet it is unsalable.

From these problems of residents facing relocation, and data from Africa by Brokensha and Scudder (1968) which indicate that relocation can substantially increase the death rate, we undertook a small study of the residents relocated with the construction of the Fall Creek reservoir (Moore 1971:34-39). Construction of this reservoir required relocation of a small community. Construction was completed on the reservoir in 1965. From Corps records 92 individual property owners in the reservoir site were identified. Due to difficulty in locating the relocated population the sample of relocated residents contacted cannot be taken as representative; however, some of the tentative conclusions are pertinent.

As would be expected people owning property in the area but not living there were least affected by having to sell their property. Having lived in the area a long time increased the difficulty of relocation, as did having a strong emotional attachment to the property. The possibility of not making a profit, which was expected, from developing or

selling the land increased bitterness with relocating. The general attitude of the relocated people was defeatism.

The response of each relocated person was flavored with the needs of his life situation. One woman complained of sickness for a year after the move. She and her husband had lived in the same place the 46 years of their married life. One family, who had recently moved from the Eugene-Springfield urban area, particularly resented the relocation because it shattered one of their life goals. One of the largest land-owners, relocated after 13 years in the area, was not particularly upset. He felt the dam was being constructed for a worthwhile purpose.

#### Bureau of Reclamation

A study like the Fall Creek study on the impacts of relocation on people was conducted in 1970 for a proposed Bureau project.<sup>1</sup> In this case the construction was only incipient, and the people interviewed were only subject to possible future relocation. The area was Moores and Pikes Valleys, 10 miles north of McMinnville.

The Bureau of Reclamation planned two reservoirs to irrigate about 25,000 acres of farm land in northern Yamhill County. The purposes of the project ranked in order of the size of the calculated benefits were irrigation, flood control, municipal and industrial water, recreation, including fish and wildlife enhancement, and water quality. The two reservoirs would inundate less than 2,000 acres and would affect just over 50 land parcels.

The research on people's feelings about incipient reservoir construction was conducted as part of a preconstruction archaeological survey. Most of the people interviewed (14) knew of the proposed reservoirs. The sources of their information were friends and neighbors, newspapers, and contacts with the Bureau survey teams. The local people were not too concerned about the project affecting them immediately. Based on experience with the Scoggins reservoir in the Tualatin Valley, just north, most of those interviewed estimated 15 years before construction and possibly as long as 30. The project engineer of the Bureau expected appropriations for construction in five or six years.

Most of the valley's residents were farm operators, although there was a professional family who had migrated from Southern California and several residents who did not depend on the valley lands for their livelihood. The valley residents were relatively closed to outsiders.

---

1 Based on field notes and report by Michael J. Reagan and Mary Oman.

Many wanted to get away from the city and people. A large number of youths attempted to settle in the valley in the summer of 1970, but their entrance was averted by the county sheriff. Since that time, lands have been well posted to keep outsiders off of local property.

In general the knowledge of the valley residents about the proposed dams was scanty. They did not have enough information to begin to react to the impending construction. Their initial reactions were displeasure, questioning of the need served by the dams, and a concern about being fairly compensated. Many took a defeatist attitude that they would not be fairly compensated. Stories about inadequate compensation were told. These were based on information about the Scoggins project to the north. Possibly the defeatist approach was a psychological defense mechanism to prepare oneself for the worst. Then, the change would not be as traumatic.

Unlike the Corps of Engineers, the Bureau of Reclamation did not use the public hearing as a mechanism for determining support for a project. For the Scoggins project, the only Bureau project to go to construction, in the Willamette Valley, the measure of community interest was the creation of organizations by interested community members and commitments by farmers, municipalities, and water users that they would purchase water from the project. Tangible evidence of local interest was the formation of the Tualatin Valley Water Improvement District, a cash contribution of \$15,000 made toward the project investigations by local interests, the formation of the Tualatin Valley Irrigation District, and resolutions of support from the cities of Beaverton, Forest Grove, and Hillsboro, the Tigard Water District, and the Lake Oswego Corporation.

#### Soil Conservation Service

Both the Corps and the Bureau rely on the responses of groups in order to gauge public opinion and involvement with their programs. The cases about the feelings of people affected by construction or projected to be affected by construction indicate that from their view, in terms of their self-interest, the costs of the project outweighed the benefits. On the other hand for the population of beneficiaries, usually much larger than the small group who were affected by construction and downstream from the construction site, the benefits, figured in terms of their self-interest, outweighed the costs. These benefit-cost analyses had little bearing on the project's salability to Congress. For Congressional approval the benefits and costs were figured based on the national income account. This level of analysis was very distant and peripheral to the interests of the people attending the hearings and the groups forming to indicate their support or rejection of project plans. By contrast the program of the Soil Conservation Service was designed to meet and deal explicitly with the self-interests of local farm operators. This program, however, was facing pressures to serve greater numbers of people, pressures somewhat incompatible with the services' pattern of operation.

In 1970 the Willamette Valley had 16 Soil and Water Conservation Districts. The local districts were run by supervisors elected by a constituency composed of "any person, firm, corporation, municipality, shown. . .to be the owner of more than 10 acres of land or having such land under contract to purchase" (ORS 568.210). The intent of the soil and water conservation program was to have local citizens determine what needed to be done, conservation wise. Technical assistance was provided by a Soil Conservation Service technician. The minimal element of the relationship between the Soil Conservation Service and the public was the district supervisor's interaction with the Soil Conservation Service technician.

The impetus of communication was two-way and the strength of each, the supervisors and the district conservationist, varied with the personalities and interests of each. The district conservationist might attempt to initiate such action as having the supervisors prescribe land use regulations, permitted in ORS 568.700. Or he might be a small time politician trying to get a supervisor on the County Agricultural Stabilization and Conservation Committee and the local water control district in order to achieve better coordination. Or the district conservationist might choose to remain solely a technical specialist and concern himself only with soil conservation practices. The supervisors, too, could be initiators of action in order to get Soil Conservation Service support for a local reservoir project or help secure assistance for waste management practices. Or they, too, might be solely concerned with just administration of the local soil and water conservation district.

Since most projects require funding, associated with the basin supervisor-conservationist relation were such funding agencies as the County Agricultural Stabilization and Conservation Committee which paid a portion of the cost of conservation practices or the Farmers Home Administration which provided low interest loans for farm development. Other federal programs also provided funding. Most pertinent to the supervisor-conservationist system were Public Law 566 projects.

The local soil and water conservation districts required other sources of funding for non-project activities. In some cases this amounted to only a few hundred dollars for the annual report and the prizes in the annual grade school speech contest. Some districts, on the other hand, spent several thousand dollars and owned equipment which was rented to cooperators. The chief sources of district income were advertisements in the annual report, contributions for clerical support from county governments, affiliate memberships, or interest on past savings. For districts with larger budgets and owning equipment, users charges were an additional source of revenue. The advertisers in district annual reports were the businessmen who worked most closely with farmers--agricultural suppliers, contractors, feed and seed dealers, fertilizer and chemical salesmen, financial institutions, insurance and real estate agencies, machinery and equipment dealers.

After meeting the financial needs with a combination of federal and local support, the local soil and water conservation district depended on the technical assistance of the district conservationist, a Soil Conservation Service employee located in the local district area. The Soil Conservation Service was unique among the basin developers in having a local representative who lived and worked in the community in which his services were employed. Economic pressures had forced some consolidation from the community to the county level; however, the Soil Conservation Service retained more of a localized contact with the public it served than any of the other basin developers.

The technical expertise of the district conservationist was in soils. For other technical information on such related activities as forestry, flood plain management, irrigation, general education, individual farm assistance, and wildlife additional technical assistance was obtained from such groups as the State Farm Forester, the U. S. Forest Service, the Corps of Engineers, the Bureau of Reclamation, the Extension Service, the Game and Fish Commissions, and the Wildlife Service. These specialists supplemented the technical background of the district conservationist.

For political action to bring about changes in county, state, and federal laws, or to get action on federally funded projects the supervisors worked with local county officials and chambers of commerce. There were state and national associations of soil and water conservation districts who had legislative programs, and there were the farm related national associations.

Since soil and water conservation districts had no power to tax, levy bonds, or make assessments, they had to work in coordination with local water control, irrigation and drainage districts, district improvement companies, and other organizations which could contract with the federal government and assure repayment of loans. There was also the need for soil and water conservation districts to coordinate with municipal and county planners, especially in areas of the Willamette Valley experiencing rapid urbanization. More common was coordination with county planners than with municipal planners. With the added layer of regional councils of governments, another element in the coordination of activities was added. At the state level the Soil and Water Conservation Commission coordinated the activities of the state's soil and water conservation districts.

Since the beginning of the soil conservation activities in the mid 1930's, public information has been a major feature of the program. Howard Bennett, establishing the idea of soil conservation, set the policies of scientific knowledge, farmer participation, congressional relations, and public information (Simms 1970:159). The public information program took the form of good journalism, award winning pictures, and feature films.

Willamette Valley soil and water conservation districts' main public information tool was their annual report. In addition, they

worked with the schools in the annual speech contest, field trips and tours, and curriculum planning. The churches were another source of information dissemination. Additional public information activities were planned in association with Granges, 4-H, Boy Scouts, and service clubs.

The activities of the district conservationist and the composition of the local soil and water conservation district were typically rural. Although with suburban encroachment on once agricultural lands an urban emphasis was fostered. Cooperators were no longer synonymous with farmers, but in urbanized areas were called *land users*. The orientation toward land users was most heavily felt in the more urbanized areas of the Willamette Valley--Eugene, Salem, and Portland. Still, in spite of a conscious effort to help the urban land user as well as the rural, the vestiges of an agricultural oriented system persisted with the annual soil judging contest, farmer of the year award, and award of 4-H scholarships. The annual calendar noted the important yearly activities--4-H Horse Fair, Sudan Grass Certification Deadline, Willamette Valley Ram Sale, Tall Fescue Certification Deadline. These overt, but probably unrecognized identifiers of a rural orientation were only the tip of an iceberg of cultural patterns which spelled a familiarity with a rural life style.

With the decline of farm populations and the change of life styles of rural residents, the people who filled the roles of supervisors, cooperator, district conservationist changed. The first vestiges of this change were apparent in 1971 in the Willamette Valley with changes in terminology, new programs to work with suburbanites, experimentation with new methods of communication with self-interest groups, increased use of mass media, and search for mechanisms to reach large numbers of people.

The Soil Conservation Service recognized that its service was too specialized. The self-interests which it served were not a sufficient segment of the public to maintain the viability of past soil conservation service programs. Tangible evidence of this shift in attention was provided by the 1971 framework plan, *Soil and Water Conservation for a Better America*.

In the mid thirties a primary concern among many conservationists and farmers was protecting the productive capacity of farmland. Topsoil was blowing and washing away. The reproductive soils of the country were being misused. The move to the suburbs and the resulting urban erosion and land use problems had only started. Thus, the need for soil and water conservation was seen as almost exclusively agricultural.

In the years following World War II, farmers produced more and more on fewer acres. With increasing surpluses, concern for farm problems, including soil erosion, diminished.



Conservation remained a "good thing" but there was declining public concern (U. S. Department of Agriculture 1971:1).

"Declining public concern" in this context meant that the size of the population whose self-interest the activities of the Soil Conservation Service served had declined. Adaptation was required, if the Soil Conservation Service was to continue to exist as an organization serving its soil and water conservation self-interests.

#### Willamette Basin Task Force

A final example illustrates how in 1970 the basin developers were having trouble meeting the diversity of self-interests which made up the public interest. Under the lead of the Corps of Engineers a Willamette Basin Task Force was established in 1963 to coordinate the actions of 19 federal, 9 state, and 5 other agencies. The Willamette Basin Task Force was created to coordinate the planning activities of several agencies--the Bureau of Reclamation was considering the Tualatin, Monmouth-Dallas, and Red Prairie projects; the Water Resources Board and the Department of Agriculture were making upper, middle, and lower basin reconnaissance studies; the Department of Health, Education, and Welfare was investigating municipal and industrial water supply and water pollution; the Bonneville Power Administration was studying the economic base of the Columbia Basin; the Fish and Wildlife Service and the Game Commission were working on anadromous fish passage and water fowl habitat; and Congress had authorized the Corps to update its 1950 study of the basin. By joining together the complementary interests of each agency could be optimized. The overt purpose for the task force was to "avoid duplication and overlap and develop really comprehensive plans" (U. S. Army Engineer District. Portland 1963a:3).

The result of the task force study was the preparation of a plan for optimizing the well-being of Willamette Valley residents (Willamette Basin Task Force 1969). The five broad areas of well-being considered were economic growth, conservation, environment, health and safety, and leisure. The development plan to achieve these goals projected \$3.9 billion in early-action (prior to 1985) and long-range (prior to 2020) projects, and since the planners could not estimate all the cost this figure did "not represent total program costs . . . to the year 2020" (Willamette Basin Task Force 1969:M, V-3).

The Corps suggested 14 multiple purpose projects at a construction cost of \$268 million, plus another \$100 million for flood control and navigation. The Bureau had 11 projects at \$495 million. The Soil Conservation Service suggested 69 projects at \$116 million. A joint effort for \$2 billion between the Corps, Bonneville Power Administration, and the Federal Power Commission increased the installed power generation capacity in the valley by four times. An additional \$400 million was projected for non-federal power projects. The list of water and power development, projected to optimize the well-being of Willamette

Valley residents, was substantial. The self-interests of the major basin developers were well served by the plan.

More significant perhaps was the shift which took place in the variety of *public* interests to be served by water resource development. In the seven year period between the creation of the task force and the presentation of the plan to the public on May 22, 1970, considerable change had occurred in the rules for evaluating water projects and in the interests to be served. Senate Document 97(87th Congress, 2nd Session) was the guide for evaluating water projects when the task force was created. It listed 10 primary benefit categories. The organization of the Willamette Basin Task Force report was to provide a separate appendix for each benefit area with drainage and land stabilization being combined in one appendix. Note also from Table 13 that the federal agency having primary responsibility, e.g. the Corps of Engineers with flood control and navigation, the Bureau with irrigation, etc., was the chairman of the committee responsible for preparation of their respective sections.

The plan was presented at a time of dynamic change in the set of rules for project consideration. Legislation requiring an environmental impact statement passed in 1969. The basis for water resource development evaluation was in the process of being expanded to include regional economic development and environmental quality. The Willamette Basin Task Force Plan was obviously prepared to meet the requirements of Senate Document 97.

More significant than the new set of rules was the change in the nature of public interest and support. The Willamette Valley Project Committee, created by Governor Martin in 1935, had initially worked closely with the State Planning Board. The committee did represent the public interest in the valley and helped make Congress aware of the desire of valley residents to benefit from flood control. In cooperation with the State Planning Board, the committee helped formulate a plan in 1937 for flood protection, known as House Document 544, 75th Congress, 3rd Session. To implement the plan the State Legislature created the Willamette River Basin Commission, a state agency, to work with the Willamette Valley Project Committee in securing federal funds for major water resource development projects.

The yearly reports of the commission identified the success measure of securing federal appropriations for water resource development in the areas of flood control, bank protection, drainage, pollution abatement, navigation, irrigation, recreation, fish and wildlife, and power generation. When the commission was terminated in 1955 and the State Water Resources Board created in its place to be concerned with the entire state, not just one region, the commission had won Congressional appropriations of \$180 million with a state expenditure of less than \$90,000 (Oregon. Willamette River Basin Commission 1956:47).

During the entire period the Willamette Valley Project Committee was the principle liaison with the public. The same committee, called

Table 13. Participants Willamette Basin Task Force Study

Agency	Area (Appendix)										
	Hydrology (B)	Economic Base (C)	Fish and Wildlife (D)	Flood Control (E)	Irrigation (F)	Land Measures and Watershed Protection (G)	Municipal and Industrial Supply (H)	Navigation (I)	Power (J)	Recreation (K)	Water Pollution Control (L)
* Chairman of Area											
✓ Committee Member											
S State											
F Federal											
Geological Survey (F)	*		✓				✓				✓
Corps of Engineers (F)	✓	*	✓	*				*	✓	✓	
Bureau of Sport Fisheries and Wildlife (F)		✓	*			✓	✓			✓	✓
Bureau of Reclamation (F)	✓	✓		✓	*	✓	✓		✓		✓
Soil Conservation Service (F)	✓		✓	✓	✓	*	✓		✓	✓	✓
Federal Water Pollution Control Administration (F)	✓	✓	✓	✓		✓	*		✓	✓	*
Bonneville Power Administration (F)	✓	✓						*			
Bureau of Outdoor Recreation (F)		✓	✓			✓				*	✓
Water Resources Board (S)	✓		✓	✓	✓		✓		✓	✓	✓
Department of Commerce (S)		✓		✓	✓		✓	✓		✓	
Bureau of Commercial Fisheries (F)		✓	✓			✓		✓			✓
Forest Service (F)		✓	✓			✓			✓	✓	
Oregon State University (S)		✓			✓	✓		✓			✓
Bureau of Land Management (F)			✓			✓				✓	✓
Department of Health, Education and Welfare (F)			✓				✓			✓	✓
State Engineer (S)	✓			✓					✓		✓



the Willamette Basin Project Committee, was the basis for public contact for the Willamette Basin Task Force study. The committee, however, was no longer representative of the special interests in the basin. In 1963, the committee was composed of representatives from small communities who were interested in securing a water resource development project in their area. There was not a broad representation of labor, business, industry, and environmental interests.

The potential problem was identified by a spokesman for the League of Women Voters when she stated:

We feel it is vital for local citizens' groups and community organizations to be brought into planning at an early stage with continuing access to thinking as it develops and the right to comment. By this means, public acceptance and support of development projects is more readily achieved and decisions are made possible between alternative choices, not variations of a single plan (U. S. Army Engineers District. Portland 1963a:282).

The recommendation was appropriate; however, no further public hearings were held after 1963 except for a report in 1968 to the Willamette Basin Project Committee. The unveiling of the project report seven years later was a time of increased concern with the environment. This was less than one month after Earth Day, an environmental rite of intensification. This was a period in which the urban oriented concern for environment manifested itself in environmentalist groups. In May, 1970 it was clear that the basin developers were out of touch with the variety of self-interests which they euphemistically labeled the *public interest*. The Willamette Basin Project Committee was no longer representative of the public interest. When confronted with the challenge of not involving the public the developers asked, "How do we get input from others while the planning is going on? How do you get people to make an input into something like this?" The old pattern of using the Willamette Basin Project Committee as the link with the public no longer worked. This committee represented only those who wanted projects to serve their local self-interests.<sup>1</sup>

All the blame did not rest with the basin developers. The public, too, bore some of the blame as the closing sentence of the League statement indicated, "As part of the 'public,' League members will watch with interest the outcome of your study." The key words were the willingness to "watch" and accepting the fact that it was "your" study.

---

<sup>1</sup> Consult the resolutions passed by the Willamette Basin Project Committee at their annual meetings.

Only when citizens' groups, acting in accordance with their self-interests, asked to be involved did the basin developers begin to contemplate new planning procedures to make this public involvement possible.

The basin developers recognized that in 1970 there was not the same homogeneity of self-interest that there was in 1937. They recognized that to the extent they failed to capture sufficient public support, a process of aggregating many self-interests, their missions would be severely jeopardized. This is not to say that the basin developers changed their ways instantly or willingly. It is to say that they responded in terms of their own self-interests to the diversity of self-interests represented in the public.

## CHAPTER 5

### MEETING BASIC WATER REQUIREMENTS

Every individual has two basic water requirements which must be served in order to maintain life. One requirement is water of adequate quality and quantity to sustain life. The other is the removal of waste water containing residues which the human body cannot use. In their most basic sense water supply and waste water removal systems serve the basic physiological needs of individuals.

Meeting basic water requirements is a continuous task and a task which must be met for every individual in order to sustain life. In contrast to the organizations which made up the systems of basin developers, different organizations served the tasks of providing water services. They were often unrelated to the development system, although this system too, was developmentally oriented.

Because meeting basic water requirements was a continuous task and because these were requirements for everyone, most Willamette Valley residents were related to some organization which met these needs. Basin development projects, on the other hand, were discontinuous; they concentrated activities to solve a particular problem for specific groups of people, and their benefits were unequally distributed among the basin population. While basin development projects did not directly meet basic water supply and waste water removal needs, they did help to provide water of adequate quality and quantity as well as helping to facilitate waste water removal. Since the emphasis of the tasks differed between basin developers and those organizations meeting people's basic needs for water supply and waste water removal, the system of organizations differed significantly.

As people come to live in closer proximity with one another, the provision of water for the maintenance of life becomes a task which cannot effectively be handled by individual effort and is more effectively handled by joining together. Working together, water of more adequate quality and quantity can be provided. The typical history of water supply systems for communities in the Willamette Valley was first individual self-suppliers, then private water companies, then a water quality or quantity problem, then the take over of the water supply activity by the community as a whole. For waste water, water disposal problems were stimulants for action requiring joint effort.

The organizations formed to meet the basic water supply and waste water removal needs were designed to optimize the needs of organization members and did not pay particular attention to the needs of other groups or organizations beyond the local community. In this sense the benefits

of water supply and waste water removal were differentially distributed with each community attempting to optimize those activities which satisfied its self-interest. The wells used to supply water to one community might lower the water table in another. An upstream community might dump waste water in the Willamette River which would deteriorate the water quality of downstream communities.

Supervising the impacts which one community had on another became the task of a regulatory organization charged with working out inter-community relations. An organization, for example, which took water quality in the Willamette Basin or Oregon as its basic task. Many community water supply or waste water removal organizations did not treat all their members equitably and this too required an organization with broader perspective. To accomplish these regulatory tasks a variety of county, multi-county, state, regional, and federal agencies evolved to supervise the activities of the narrow perspective local organizations while allowing growth to continue with minimum restraint.

#### Water Related Organizations

Two general alternatives were available to groups of people requiring an organization to meet their water supply and waste water needs. One option was some form of local government either a municipality or special district. The other option was to use some form of private company. A third option was to drill a well and install a septic tank. My interest is primarily with the organizational structure for water supply and waste water removal, and the problems associated with this structure.

Oregon laws making provisions for special kinds of local government date from 1895 when the legislature provided for irrigation and diking districts. These specialized units of local government, called special districts, were governmental units serving localized areas. They had a limited range of activities which they could perform, and they usually operated where municipalities did not provide the service required. With population growth, new activities required new kinds of special districts. In 1917 domestic water supply and sanitary districts were created. With the Flood Control Act of 1936, flood control districts were created along with corporations for water use and control, both for the purpose of contracting with the Corps of Engineers.

As part of a legislative study of special districts for the purpose of better regulating their activities, Jean Gearhart (1969), a legislative counsel, identified laws in the Oregon Revised Statutes pertaining to 40 kinds of special districts, many of which had never been put into practice. Seventeen or nearly half of the special districts were water related. The rest were concerned with such tasks as roads and lighting; vector, weed, and animal control; fire protection; and public health. School districts were not included.

One of the principle problems with the laws relating to special districts was their number and the difficulty in knowing how the laws



were being utilized. In an effort to gain more regulatory control over the situation several special district laws were repealed and special reporting procedures were established.

Some laws, written more broadly, took on new uses over time; thus, merely adding to the complexity and lack of regulatory control. One example was the corporation for irrigation, drainage, and water supply, called district improvement companies. This type of organization was created in 1937 for the purpose of contracting with the Corps of Engineers for flood control works. In 1971 district improvement companies were being increasingly used for the provision of water supply for new subdivisions beyond municipal boundaries.

Records of the State Corporation Commission showed that by 1971, 58 district improvement companies serving 51,000 acres, had been formed in the Willamette Valley. Of the 11 district improvement companies formed before 1950, all had flood control as their primary purpose. During the period between 1950 and 1965, the purposes were split nearly 50-50 between flood control and domestic water supply. Since 1966, 10 of 12 district improvement companies chartered in the Willamette Valley were formed to provide domestic water supply for new subdivisions.

The district improvement company purpose for organization shifted from the original flood control intent of the act to domestic water supply. Special district organizers selected the organizational alternative which best met their needs. Very often one of the criteria used in selecting among the alternatives was freedom from regulation. The needs of regulatory agencies were less well met, hence a 1968 legal study proposed 28 bills for modifying special district laws for the purpose of strengthening these laws (Oregon. Legislature 1968). One result of these proposals was to make the laws simpler to administer. This was in the self-interest of regulatory agencies. Several of the study group's recommendations did, however, suggest studies which should be carried out and legal changes in the interests of the users of special district laws.

To identify other organizations which could be used for meeting basic water needs and the regulatory organizations for supervising their activities, the Oregon Revised Statutes were reviewed under the index category "water." This resulted in the identification of 30 units of local and regulatory government carrying out a variety of water related tasks from Artesian Well Districts to Weather Modification Districts. Each of the units of local and regulatory government had a specific purpose and a set of policy goals which were often related to growth.

It is in the public interest that integration and coordination of uses of water and augmentation of existing supplies for all beneficial purposes be achieved for the maximum economic development thereof. . . (ORS 536.310, General Water Policy).

The maintenance of the present level of the economic and general welfare of the people of this state and the future growth and development of this state for increased economic and general welfare of the people there of is in large part dependent upon proper utilization and control of the water resources of this state. . . (ORS 536.220, State Water Resources Board).

. . . for guiding the creation and growth of cities and special service districts in Oregon. . . (ORS 199.410, Local Government Boundary Commissions).

In addition the statutes identified the state and county agencies with jurisdiction over the formation and activities of special districts. A field check was made with regulating agencies to obtain a roster of water supply and waste water removal organizations. Table 14 indicates the numbers of Willamette Valley organizations found for 1971 in several of the most significant water management categories. As can be seen from the table the overwhelming majority of the organizations identified had as their basic purpose meeting the water supply and waste water removal needs of people.

#### Water Supply

Water supply systems in the Willamette Valley represented a diverse mix reflecting the situations of the residents and the communities in the valley. Seventeen different forms of social organizations were available to water users for the supplying of their water needs. These ranged from individual self-suppliers and partnerships, to profit and non-profit corporations, to a wide variety of single and multiple purpose local governments, to associations of citizens. Based on records of the State Board of Health which made water quality evaluations on systems serving over 50 people, nearly 75 percent of the 1970 population of the Willamette Valley were part of 269 public, private, or cooperative water supply systems.

Review of the records of state and county agencies which have jurisdiction over water suppliers resulted in the identification of 418 organizations supplying water to Willamette Valley residents. These figures suggest that the population served by some water supply organizations was greater than the 75 percent indicated. I suspect, though, that the increase in population was not large.

The largest water supplier was the regional system of the Portland Bureau of Water Works which provided water to 45 percent of the residents of the valley. The Portland Bureau of Water Works (1971) served in 1970 a City of Portland population of 385,765 plus an additional 262,561 people outside the city limits. Most of the water

Table 14. Water Managing Organizations

Kind of Organization	Function				
	Water Supply	Waste Water Removal	Flood Control (1)	Irrigation	Soil and Water Conservation
Municipal Corporation	76	86	0	0	0
Other Governmental	87	21	14	6	16 <sup>(3)</sup>
Non-Governmental	255	81	29	9 <sup>(2)</sup>	0
Total	418	188	43	15	16

1 Includes drainage, diking, and bank protection.

2 Only District Improvement Companies.

3 Soil and Water Conservation Districts.

deliveries outside the city were accomplished by the delivery systems of 41 private water companies and water districts along with 3 municipalities to which the bureau distributed water.

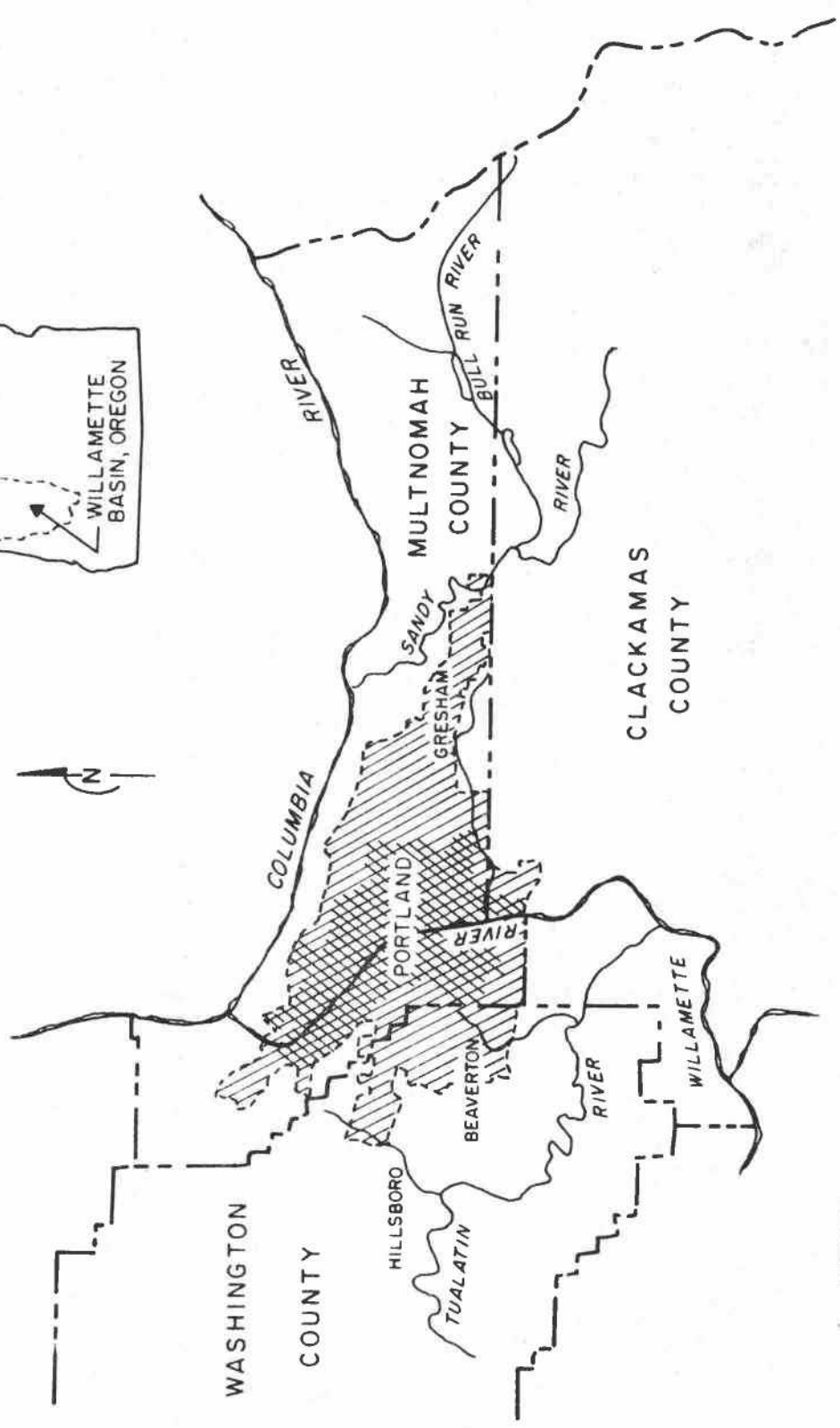
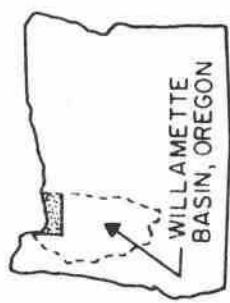
The Portland water system was a complex regional system which developed water in the watershed of the Sandy River, a tributary to the Columbia. The water was transferred from this basin into the drainage area of the lower Willamette. The water was carried across the Willamette River at several locations and pumped into the Tualatin Basin, a tributary to the Willamette. Water in this municipal system was transferred between three river basins and serviced parts of three counties (Figure 8).

The Portland water system had its origin in 1887 when the holdings of the Portland Water Company were purchased by the city. This provided the city with a water franchise. Hindsight shows that farsighted planning resulted in work beginning in 1891 to develop the Sandy watershed source, commonly referred to as "Bull Run." Bull Run River on which water storage works were constructed is a tributary to the Sandy. The plan was farsighted because the water supply in 1970 was sufficient to provide for the domestic water needs of four times the number of people then served. The City of Portland had rights to all the water in the Bull Run River. In addition to the water rights, the City of Portland owned over 4,000 acres of timberland in or near the Bull Run watershed preserve.

The water system provided two important benefits to residents of the City of Portland, benefits which did not accrue to the water users outside the city. First, water rates to city residents were lower than those to non-residents. Annual costs to residents outside the city ranged from almost twice to over four times the cost to residents within the city (Portland State University 1969). The second benefit was the Bureau of Water Works paid a utilities tax, provided free service to certain city departments, and paid other service charges to the city. The value of this in FY 71 was \$670,000.

The Portland Bureau of Water Works was a regional water supply system serving 73 percent of the people in the metropolitan Portland area. The rest of the people were served by other municipalities, private water companies, and water districts.

The City of Eugene, the second largest municipality in the state, owned not only the water franchise which it purchased from a private syndicate in 1908, but it also owned the electric franchise. One of the factors which brought about the public ownership of the water franchise in Eugene was a 1906 epidemic of typhoid which was linked to polluted supply wells operated by a private company. Prior to the epidemic a few local residents favored take-over by the city. City ownership had been discussed, but little action was taken. The epidemic spurred the rather apathetic public interest in ownership of the water system. One of the functions of crises appears to be the crystallization of people's sentiment toward a particular course of action.



-  Area Served with Water from Bull Run
-  City of Portland

Source: Clark and Groff Engineers, CRAG WATER PLAN, 1969:24

Figure 8. Portland Regional Water System

Municipal water systems, such as the ones in Portland and Eugene, served the majority of the residents in the Willamette Valley. Of the 418 water supply systems identified for 1971, 76 were municipal. Two thirds of the municipal systems and 90 percent of the residents they served, depended mostly on surface water sources; however, only one, Corvallis, drew its water from the Willamette River. Corvallis used its water treatment plant located on the Willamette River to provide water to meet the summer peak demand.

Nearly all the municipal water systems had an adequate supply of water. Several faced the traditional problem of water hardness. Many central valley communities had excessive quantities of iron in their water, and an area southwest of Eugene had problems with arsenic in the ground water.

While municipal water systems served most of the valley residents, these represented less than one fifth of the water supply systems identified. Clearly there were a large number of water supply systems serving a small number of people. The largest number of water supply systems in 1971 were one form or another of private company or cooperative organization (Table 15). In addition there were 87 water districts, a form of single purpose local government.

Depending on the self-interest of the person speaking, the large number of small water supply systems was either a problem to state regulatory agencies, or the small water system gave people the alternative to develop small living clusters wherever they pleased. Individuals, by my estimate approximately 70,000 families, exercised the alternative providing the greatest freedom of locational choice, and this was to drill their own well.

Table 15 shows the identification problem facing regulatory agencies. Few regulatory agencies had full knowledge of all the water supply systems in the categories for which they had statutory responsibility. A second fact which emerges from the table is that the system for meeting water supply needs was quite different in terms of interested state agencies. Those regulatory agencies which did have an input into the Willamette Basin Task Force study (Table 13) played only a minor role, and many of the most significant agencies for water supply management were not represented on the task force. The system for basin development and the system for meeting basic water needs while overlapping to some extent were largely separate and non-articulated systems.

The quality of the information in Table 15 is indicative of the problem of developing information on all the various water suppliers. The list derives from the composite lists of the regulatory agencies listed, plus the records of county assessors. Other state agencies, the state engineer, water resources board, corporation commissioner, and public utility commissioner, too, maintain records on some of the water suppliers. At the county level the assessor, clerk, planning department, and health department were among the county agencies concerned with various organizations in the water supply system. At levels of government between the county and state were boundary commissions and councils of

Table 15. Water Supply Organizations

	Waste Water Quality (Department of Environmental Quality)	Domestic Water Quality (Department of Health)	Tax Liability (Revenue Department, Utilities Section)	Budget Review (Revenue Department, Local Budget Section)	Audit of Fiscal Records (Secretary of State)
	(percent)				
Municipalities n = 76	73 <sup>(1)</sup>	100	84		
Water Districts n = 87		68	90	70	71
Water Companies, Association n = 153	3 <sup>(1)</sup>	46	80		
Coops <sup>(2)</sup> n = 48	2 <sup>(1)</sup>	71	94		
Other n = 54	13 <sup>(1)</sup>	56	68		

1 Water suppliers with sewerage systems.

2 Based primarily on data from the State Board of Health.

government needed information on the status of water supply organizations, primarily for planning purposes.

None of the regulatory agencies had sufficient contact with the various water supply organizations to know their operational status. The information which was available was fragmented with each regulatory agency operating only within its statutory limitations. In other words the regulatory agency operated only in terms of its self-interest established by statute. For the most part the regulatory agencies had neither the resources nor the legal obligation to look more broadly than to the tasks prescribed by statute, which due to the limits of funding were difficult enough to carry out. Thus, no regulatory agency developed a holistic view of the adequacy of the organization's effectiveness in serving its customers.

A second aspect of the contact between the regulatory agency and the water supply organization was the means of communication. Contacts were made using the most efficient means of communication. Efficiency of communication as described here means least expensive, not the most effective in terms of providing clear understanding of one for another. Efficiency measured in terms of cost means that the least personal form of communication was used. Only where there were problems did a telephone call replace the more impersonal letter which may have been written after the original form letter did not elicit the required response. Only with severe problems did a personal contact take place.

A third aspect of the regulatory agency-water supply organization contact was knowing when a new organization was formed and when old organizations discontinued operation, consolidated, or fissioned. The most commonly used tool to develop this information was the permit. Permits were required to drill a well, appropriate water, build a house, install septic tanks, discharge wastes, etc. From these the regulatory agencies kept track of what was happening in their sphere of interest. A permit, however, served not only to provide information and regulation for state agencies; it also made the permittee feel more strongly the impersonalness and absentee nature of government. A permit is a highly impersonal means of communication, and it serves to emphasize who has the authority. The applicant for the permit sees this authority in terms of lost individual freedom. Further, in many cases the individual's self-interest may be just as well served by disregarding the entire impersonal system. What is in it for the individual? How does it serve his self-interest? Thus, with all the different sources of impersonal contact by means of permits and forms to fill out, some people found avoidance a viable alternative to compliance. Quite often non-compliance was not willful or purposeful, although it often was; but quite often non-compliance stemmed from the fact that the regulatory agencies did not know what was going on and did not know who to ask to find out.

#### Waste Water Management

To manage waste water the first requirement is some knowledge of the variety of activities in which waste water is of consequence.



Agricultural, domestic, and industrial wastes are most commonly recognized because for each of these activities the responsible party can be identified. Other wastes coming from street runoff, soil erosion, mining, heated waste water, obsolescence, recreational activities, and other land use practices where the responsible person is difficult to identify or is transient to the situation are much less clear-cut and much harder to deal with on a regulatory basis. Therefore, programs of waste water management start with the easily identifiable wastes, wastes for which there are accepted measures, and wastes for which the agent of the waste can be clearly identified; and then, move toward the less obvious and less clearly defined problems.

In the Willamette Valley concern for municipal and industrial wastes goes back to the first quarter of the twentieth century when the Portland City Health Bureau, the U. S. Public Health Service, and the Engineering Experiment Station at Oregon State College

. . . gave undisputed evidence that portions of the Willamette River had become so polluted with municipal sewage and industrial wastes that these waters were a menace to health, destructive to fishlife, and unfit for certain beneficial uses (Oregon. State Sanitary Authority 1964:4).

Public action for cleanup was not undertaken until 1938 when a citizens' initiative passed by a three to one margin creating the State Sanitary Authority.

At this time there were no sewage treatment plants on the Willamette River, and there were only 23 plants on the basin's tributaries. The intervention of World War II put off the implementation of the public mandate for cleanup until 1947 when Regulation I was adopted by the State Sanitary Authority. Regulation I established the basic standards of a minimum of 5 ppm of dissolved oxygen and 6.5-8.5 pH levels. To achieve this standard, primary treatment for most cities on the main stem of the Willamette River was deemed adequate. Primary treatment was defined as 35 percent removal of 5 day BOD and removal of 55 percent of suspended solids.

In 1949 the first municipal sewage plants were built on the Willamette River, although in 1947 a privately owned plant had been constructed to serve the Manbrin Gardens subdivision in Marion County. By 1957 all communities along the Willamette had at least primary treatment.

Industrial cleanup of waste water lagged behind the municipalities. The impact of industrial waste was three times greater than the municipalities. A 1950 hearing before the State Sanitary Authority showed little progress by industries toward cleanup. The major sources of pollution were from five pulp and paper mills constructed between 1888 and 1923. Two newer mills were constructed in 1949 and 1955. Between them, the seven mills contributed over 80 percent of the industrial wastes to the Willamette River. Food processing industries were the

next largest source of industrial waste water (U. S. Department of the Interior 1967).

Reassessment in 1957 by the State Sanitary Authority showed the effort at waste water cleanup in the post war decade had resulted in only a 16 percent reduction in the level of pollution. The wastes from the 5 sulfite mills represented 64 percent of the total oxygen demand. The DO average in Portland harbor for August 1957 was only 1.5 ppm with a one day low of 0.6 ppm being reached. Population and economic growth had eaten up all the gains.

The next phase of the cleanup program began in 1958. Secondary treatment, 85 percent reduction in BOD and suspended solids, was required. By 1970, with the exception of the Northwest section of Portland, all cities had secondary treatment and the Tualatin Basin was scheduled for tertiary treatment, 90-95 percent reduction in BOD and suspended solids and 85-90 percent reduction in phosphates.

Data compiled by the Oregon League of Cities and Towns (1971) indicate that municipal waste water collection and sewerage treatment systems constructed in the Willamette Valley between 1946 and 1969 cost \$100 million. The Oregon Department of Environmental Quality (1970:8), renamed from the State Sanitary Authority in 1969, estimated that in excess of \$210 million had been spent throughout the state. Expenditures increased sharply in 1970 when \$20 million was spent throughout the state, \$8 million coming from federal grants. Most of the financial burden of the water cleanup program in the Willamette Valley to 1970 had been carried by local citizens. Federal funds only provided 11 percent of the total expended to 1969. State grants provided but 2 percent.

The year 1969 was the first year the dissolved oxygen standard was fully met. The Department of Environmental Quality (1970:17) reported BOD discharges and suspended solid loads had declined significantly. These gains were accomplished by an 86 percent reduction in industrial wastes, an 89 percent reduction in municipal wastes, and low flow water augmentation from federal water storage projects.

Is the water quality problem solved, and can Willamette Valley residents turn to more pressing social and economic problems? Several facts suggest that more expenditures in municipal waste water collection and treatment were in store to keep up with growth in the valley. The city of Tigard on the Tualatin River was installing tertiary treatment facilities. Demographers and planners expected population growth to continue in the valley at least through the end of the century, and areas, such as the Willamette Valley, with desirable environments could be expected to grow faster than areas defined as undesirable. Population and industrial growth would require upgrading, expansion, and new municipal waste water systems.

Comparing what has been accomplished with the kinds of waste water sources shows that only point sources of pollution had been tackled. General sources of municipal waste water pollution from land and from people dumping wastes in storm sewers have yet to be effectively

approached. A Resource for the Future typology of water pollutants illustrates what is yet to be done (Herfindahl and Kneese 1965). There are three major categories in the RFF typology--degradable pollutants, non-degradable pollutants, and persistent pollutants. Municipal waste water cleanup, so far, had only come to grips with the first, degradable pollutants. Much less had been done in the other two categories. Industrial waste water cleanup had proceeded farther with systems to remove non-degradable and persistent pollutants. A systematic program for the management of agricultural wastes was implemented in 1971.

Oregon waste water managers regard themselves as national leaders in the water quality field. One of the major tools which made the regulatory program in Oregon effective was the waste discharge permit created by the 1967 legislature. The discharge permit established the quality of water which could be discharged into the state's streams. Everyone discharging waste water had to have a permit. As with most regulatory programs the funding was insufficient to control all discharges; therefore, the program started with the biggest problem areas.

The discharge permit program worked well for point sources of waste water discharge where the discharger could be readily identified and the nature of the discharge determined. In addition to identifying who was discharging and what the discharge contained, a third element must be added for a successful program. This was the technology to do something about the discharge. Here what was practical had to be merged with the ideal.

Requiring a discharger of water to modify his discharge in some way to conform to a standard adds to his costs. The modification limits the use of the stream or river as a free good. The majority of the decisions made by the Environmental Quality Commission, administrator of the permit system, were directly concerned with the cost issue. Industries argued that cleaning-up of waste water would increase production costs, force the loss of competitive advantage, result in the layoff of workers, and generally lead to regional economic decay. Municipalities, too, were faced with voters unwilling to increase their taxes or fees for municipal services.

The cost issue was a constraint which made the real accomplishments in waste water management less than the ideal. The lack of advance in the improvement of water quality during World War II showed that waste water management was a part of an elaborate system of priorities which interplay one against the other. One of the critical elements in setting these priorities was people acting in terms of their self-interest. People's actions must clearly indicate to waste water managers their priorities. People in Oregon first expressed support for cleanup of rivers and streams by sponsoring and passing an initiative which created the State Sanitary Authority, predecessor to the Department of Environmental Quality. Initially the State Sanitary Authority was a paper organization in that it was staffed by people from the Department of Health who merely wore two hats. Additional support came from the 1949, 1953, and 1956 state legislators who provided funding programs to help small communities.

In the 1960's people passed most of the sewer bond issues required to finance waste water collection and treatment systems in their local communities. The 1967 legislature adopted the permit system, along with a new policy statement

. . . expressing the state's intention to conserve waters of the state and to protect, maintain, and improve water quality thereof for public water supplies, the propagation of wildlife, fish and aquatic life, and domestic, agricultural, industrial, municipal, recreational, and other legitimate uses (ORS 449.077).

In 1970 people reaffirmed their support for waste water management by adopting a constitutional amendment authorizing the state to issue pollution control bonds to one percent of the value of taxable property. In the fall of 1970 support for clean water was reaffirmed with the scenic waterways initiative.

Support of waste water management programs in the Willamette Valley did not come from blind faith in the need for water quality enhancement. It came from people being convinced with empirical evidence that water quality was inadequate and declining. Tangible evidence of the deteriorating water quality in the Willamette River was reduced fish populations and the increased unpleasantness of being associated with the river. Objective measures such as coliform bacteria count, dissolved oxygen, pH, turbidity, temperature, dissolved inorganic substances, toxicants, color, and radioactivity which taken over time provided evidence of the trend in water quality are additional indicators. As might be expected, those people having closest contact with the river, fishermen, boaters, health officials, scientists, were among the first to draw attention to the deteriorated quality of the river. Historical data indicate that these warnings began 30 years before the initiative to create the State Sanitary Authority. It was 40 years before Regulation I was adopted, and 60 years before the river reached the standard set in Regulation I.

Why such a long history of discussion and debate without satisfactory results? Of the people living in the Willamette Valley, not many directly used the Willamette River. The facts which fishermen, boaters, health officials, and scientists observed had to be communicated to valley residents. The reporters in the communication media had to make their own studies of the data and become convinced. Then, valley residents had to do the same. Perhaps one of the principle factors was that Portland, the largest city in Oregon, was situated along the most polluted portions of the Willamette. Thus, greater numbers of people had the occasion to observe the river. This was the largest communication center. Perhaps, too, as fate would have it, one of these commentators became governor of the state.

A second requisite for effective action was the setting of some measurable goal for water quality. To say that water quality should be

improved was one thing; to say how much required the setting of measurable standards. Regulation I was a step in this direction. Yet Regulation I specified the quality for the river, it did not specify the limits for each waste water source emptying into the river. The first step in applying the quantified standards to each waste water source was to stop viewing the river as a diluter of wastes. The attitude toward the river had to be shifted to obtaining the highest quality practicable, i.e. capable of being practiced. The second step was to hold each contributor of waste water to the river responsible.

The statement of policy and the permit system passed by the 1967 state legislature made these two important steps. These gave the Department of Environmental Quality the power to work on an individualized basis with each waste water source. Using the permit system the department could specify the character of the wastes which could be discharged from each waste water source.

Commitment and the tools to cleanup water pollution were requirements for action. Organizations for waste water management had to convert commitment into action. The Department of Environmental Quality was the principal regulatory agency. Industries and waste water managing organizations had to carryout the requirements of the department.

The organizational structure for the management of public waste water in 1971 was similar, in terms of the kinds of organizations, as the structure identified for public water supply (Table 15). Table 16 reflects many of the same conclusions that were made for water supply organizations--the regulatory structure differed significantly from the system of basin developers and organizational alternatives showed a mixture of public multiple purpose and single purpose agencies, private companies, and a diverse mix of other non-industrial organizations.

Some of the differences, too, were interesting. The number of organizations with a sewage function was less than half in number (n=188 as opposed to 418). This was due to two factors. First, the economic requirements of a sewerage collection and purification system made the septic tank a cheaper alternative. This was less often the case with water systems. My estimate, based on figures from the State Board of Health, was that 75 percent of the basin population were part of water supply systems serving 50 or more people. For waste water management the Federal Water Pollution Control Administration (1967:52) estimated that 55 percent were part of waste water management systems for which there was treatment of waste water.

Part of the reasons for this difference was that with water supply there was a tangible good being delivered, and people were willing to pay for something which they used and benefitted from using. Sewage, on the other hand, was perceived as a waste product and in a social psychological sense something which was hard to market. This problem was summarized by one citizen who said, "Nobody cares about sewers, because it is not a neat thing and it doesn't make money. The water thing, however, is important to the people and is profitable."

Table 16. Waste Water Removal Organizations

	Waste Water Quality (Department of Environmental Quality)	Domestic Water Quality (Department of Health)	Tax Liability (Board Revenue, Utilities Section)	Budget Review (Department of Revenue, Local Budget Section)	Audit of Fiscal Records (Secretary of State)
	(percent)				
Municipalities n = 86	78	87 <sup>(1)</sup>	74		
Sanitary Districts n = 21	38			24	19
Private Systems n = 49	94	16 <sup>(1)</sup>	15		
Other n = 32	97	9 <sup>(1)</sup>			

1 Sewerage Systems with water supply.

The viability of the septic tank as an alternative to a group solution was another factor reducing the number of organizations for waste water removal. With the recognition that many Willamette Valley soils were unsuitable for septic tank drainage this situation was changing rapidly in 1971. Septic tank installation was controlled with a permit system administered by each county.

A second factor reducing the number of organizations for waste water removal was regionalism. The policy of the Environmental Quality Commission was for regional sewerage systems. The commission was successful in implementing a regional solution in the Tualatin Basin where 23 sanitary districts were consolidated into the United Sewerage Agency.

The Tualatin River Basin had been the site of rapid suburban growth since 1940, with population increasing at a rate of over 50 percent per decade between 1940 and 1970. The Tualatin River was a meandering stream with next to no flow reaching its mouth during the months of July, August, and September. The limited amount of water available was consumed primarily for domestic water taken from tributaries to the Tualatin and for irrigation. With growth in the valley, sewerage collection systems developed, mainly in the form of sanitary districts which increased from none in 1951 to a maximum of 24 in 1967. The waste water from these sanitary districts and several municipalities provided most of the summertime flow in the Tualatin River.

The problem of low summer flow and the conflict between irrigation and domestic water uses dated back to at least the 1920's (Hart 1971:25-43, 51-59). At the time the city of Hillsboro and the Carnation processing plant had open ditches returning waste water to the river. People complained of "sewerage stench south of the city." The solution in 1932 was to assume dilution of these effluents would be sufficient to reduce any possible hazard.

Suburban growth between 1940 and 1970 severely aggravated the water problem, as did increased water demands for irrigated farming. Water rights for farming predated the claim of local cities and water districts, and in 1956 the watermaster for the Tualatin Basin ordered Hillsboro, Forest Grove, and other small communities to reduce their water use. This situation was replayed summer after summer during the 1960's.

The Department of Environmental Quality warned in 1966 that action was required to halt summer waste water discharge into the Tualatin. In 1969 using the waste discharge permit tool, the department limited issuance of building permits until a solution to the waste water problem was found. The limitation on building, as might be imagined, added significantly to the number of people concerned with the Tualatin water quality situation. The number of people who were affected by the pollution in the river had, to this point, been insufficient to get action to cleanup the river. Many of the local officials who could have acted previously had not been to the river in the summer and experienced the pollution problem. The halt to growth which the building permit ban

dictated, also dictated a much broader concern among people with the state of the Tualatin.

One of the elements of the solution which was worked out was the Department of Environmental Quality's insistence on a regional system which would do away with the small independent sanitary districts and small municipal treatment facilities. Economically a regional system was argued to be cheaper. Equally important in enhancing water quality was the reduction in the number of separately managed facilities, most of which were without full time supervision. With a regional system the department would only have to deal with one organization which operated and was staffed on a full time basis. A few large plants could more effectively handle surges and over loads. The larger plants would have operators on duty 24 hours a day who could quickly react in case of malfunction.

Growth and the limit to grow, then, were both key factors in the proliferation of waste water managing organizations and in the reduction of the number of these organizations to improve water quality. Growth helped to create and aggravate the problem. The threat to limit growth helped in reaching a solution.

#### Public Participation and Growth

There were two forms of public participation in water supply and waste water removal organizations. These were as consumer and citizen. For municipalities and special districts, people were both consumer and citizen members of a governing electorate. For private companies, people were usually only consumers, although sometimes they were officials of the organization.

In the municipality public regulation of the municipality's activities occurred as people participated in their role of citizen voting on the positions of elected officials, bond issues, special levys, and taxes. Compared with the special districts, Willamette Valley municipalities usually had more citizen members. Municipalities also had a broader range of tasks, usually water and sewer service were only two among many. Planning, street construction and maintenance; park, recreation, and library services were also tasks performed by the multiple purpose municipal corporation.

The diversity of tasks increased the size of the citizen constituency which participated in municipal elections. The constituency usually ranged between 20 and 60 percent of the eligible electorate depending on the issue being considered. Participation in special district elections was by comparison found to average only 4 percent of those eligible (Portland State University 1965:6). Reading the results of special district elections indicated the general lack of public involvement. Most candidates ran unopposed and typical election results read (*Statesman*, December 2, 7, 8, 1971):



Two votes were all that were needed to hand Al Haener, Mel Ediger, and Robert Cobine unopposed full terms on the American Bottom Water Control District board of directors.

. . . in Little Luckiamute Water Control District near Dallas . . . Floyd Nelson received 55 votes for a one-year term, defeating write-in candidate Cecilian Dillin, who received 46 votes.

The *Statesman* was unable to contact several districts holding elections.

Bonding and tax levy issues stimulated greater response with an average turnout of 9 percent as opposed to a 3 percent turnout of eligible voters at elections. The Portland State University (1965:6) research team gave confidence in local people as directors and absence of a sense of immediacy as explanations for the low turnout at special district elections.

Participation in the activities of private companies was only in the role of consumer. The company had monopolistic control of the water supply or waste water removal service. In many cases the company was a group of friends and neighbors working together. For the early stages of development, the company was the one developing the property. The consumer wishing to change or regulate the practices of the company managers had no direct way of expressing his dissatisfaction, except in the role of a complaining consumer. Since the private company had a monopoly of service and since the company usually provided water supply or waste water removal services in areas not served by municipalities, a dissatisfied customer had to rely on help from regulatory agencies. A fairly typical pattern in the Willamette Valley was for dissatisfied citizens to press for municipal ownership of private water supply or waste water removal companies or to press for annexation into a municipality.

Before the inflationary cost pressure of the period after 1963, cities did not look too closely at the costs of adding new service areas to their boundaries. Growth was good and annexation was regarded as a benefit to the community. As the cost problems of serving widely scattered areas increased and as municipalities discovered that the private systems were not adequately constructed to be incorporated into the municipal system without significant reconstruction of the private facilities, annexations became subject to greater scrutiny.

The limited purpose special district and the private company were organizational alternatives which made growth into less densely settled areas possible. The special district and the private company, as organizations for the purpose of providing water supply and waste water removal, facilitated the implementation of people's tastes to move to less densely settled areas. In fact those areas which were suburbanizing had the largest number of these organizations.

To manage, control, or plan for growth, greater knowledge of the organizational alternatives for water supply and waste water removal was critical. The lack of readily available information led to numerous studies by the state legislature (Oregon. Legislature 1963, 1968, 1969). In addition regulatory agencies exchanged information which would enable each to carry out its statutory functions.

Interviews with those responsible for knowing about water supply and waste water removal organizations and their operations indicated that the present system was not effective in ferreting out and maintaining knowledge of the alternatives opted by Willamette Valley residents. New developments were sometimes located on a Sunday drive or by other chance means. Mail questionnaires went unanswered. The alternatives, at least in terms of the options for water supply and waste water removal, favored growth.

The organizational structure in 1971 was configured to promote growth. There was discussion of limiting growth using urban boundaries; however, this was primarily a transitory mechanism to force concentration to make servicing easier rather than limiting growth. When growth patterns demanded it, those discussing urban boundaries were quite prepared to loosen the belt a notch.

Special districts as units of local government and private companies provided alternatives to circumvent urban boundaries. Special districts made possible the provision of services beyond municipal boundaries. This in the short-run offered people an alternative to creating a municipality and enabled people to exercise their tastes for land and home ownership. As growth continued, sanitary districts, water districts, fire districts, street lighting district, etc. formed an overlay in a patchwork pattern where district boundaries seldom coincided. Special districts even fell within the boundaries of municipalities. Over time the special district alternative which made growth possible fell prey to continued growth. Many times the facilities of a special district or private company annexed into a city were inadequate to be incorporated into the larger municipal system. Water lines could not handle the pressure, and sewer lines were not sized adequately to handle the load. These were common problems, often repeated.

The problem, however, went deeper than just physical and boundary problems. The proliferation of special districts and private companies created inequities, made planning difficult, and in order to get better knowledge and control over what was happening required new forms of government.

As with most problems which to the newcomer appear as a revelation, the proliferation of special districts and private companies had been recognized as a problem in the Portland area for a considerable period of time. The 1925 Oregon Legislature, largely as a result of the efforts of the Portland City Club, authorized a Government Simplification Commission to study the problems of government in the Portland metropolitan area. One of the recommendations of the commission was that all

units of government in the Portland area be consolidated in Multnomah County. The electorate rejected this with a strong no vote. A 1932 conference made a recommendation for consolidation of the Multnomah, Washington, and Clackamas county governments. This recommendation was not implemented. Efforts continued over the next 35 years to simplify and consolidate the complex governmental structure.

One issue identified by the League of Women Voters (1960), one of the many groups studying the problem, was differential advantage. The League, made up mostly of suburban people, pointed out that the water and sewer rates in suburban areas were well above those for incorporated areas. The Portland Bureau of Water Works charged its Portland resident customers less than it charged adjoining municipalities, water districts, and water companies supplied by the Bureau. On the other side the new suburban residents were not willing to support school tax equalization, nor were they willing to support city costs for fire and police protection, planning, and other more costly areas of city government. The suburbanites wanted to reduce water and sewer costs which were in excess of the city's, and the city wanted to augment revenues with tax equalization from the suburbs. Neither group wanted to give any of its favored position, yet both wanted something from the other. Both were privateering to serve their own self-interest.

The solution could not be worked out through existing channels of government. The response was to create new units of government to deal with the problem. The first step was the creation in 1963 of the Portland Metropolitan Study Commission. The League of Women Voters, Portland Chamber of Commerce, and Metropolitan Area Perspectives, Inc. helped convince the legislature of the need for such a commission. The mandate given to the commission emphasized multiple purpose units of government over single purpose, flexibility in governmental boundaries, and citizen participation. The commission through a "market basket" approach helped stimulate the formation of the Columbia Region Association of Governments, a four county planning agency; the formation of the Columbia-Willamette Air Quality Control Authority; an agreement to consolidate the Portland and Multnomah County Health Departments; the formation of metropolitan service districts; and the creation of boundary commissions.

The crux of the previous inability to come together--water and sewer rates favorable to city residents and tax equalization were not broached. Instead effort was placed in areas where there was mutual complementarity of self-interest such as regional planning, air quality, and duplication of services. The solution was to expand units of government.

In creating new units of government the same problem of limited scope and failure to deal with the issues were the result of legislative action. For example, the Portland Metropolitan Boundary Commission was only given authority to determine boundaries. The boundary commission felt that encouraging multiple function districts was important. Recognizing its limited scope the commission stated it would:

. . . concern itself with the full range of services which can be provided under the statutes for district organization, not just the particular service asked for in the petition, and may require supporting statements from the filing agency as to the full implication of all services which can subsequently be added after a boundary had been established (Portland Metropolitan Area Local Government Boundary Commission 1971:25).

Thus, by administrative procedure the commission undertook to implement what it believed to be the best policy. It acted in terms of its self-interest authorized by statute and interpreted by the commissioners. Citizens opposed to regional government, objected to implementation of policy by administrative procedure rather than by elected representatives of the people. These same citizens found no fault with single purpose forms of local government in which the voter had the right to express himself on all revenue measures.

The anti-regional sentiment limited the effectiveness of the Columbia Region Association of Governments who had done extensive water and sewer planning, but were unable to implement these plans. The chairman of the association of governments, who was facing a recall election in his county at the time because of his participation in CRAG, described the association as a unit of government without a constituency.

The economic pressures of the 1968-71 period forced many city and county governments to consider pulling out of participation in one of the four associations or councils of government in the Willamette Valley. The regional approach which required looking more broadly was difficult to justify when library service, street repair, and community recreation programs were being curtailed. So far no one had convinced a sufficient number of local citizens that their self-interest would be better served by a regional approach. The councils of government continued to operate because of the commitment of planners and governmental officials, and because regional plans were a requisite for receipt of federal funds.

The response to growth in terms of water supply and waste water management organizations highlights two paradoxes. First, the variety of organizational alternatives made the provision of water supply and waste water removal in areas beyond existing service territories possible. The organizational alternatives, then, were stimulants to growth. As growth occurred the need to link these relatively independent organizations together increased. It increased because of the impacts one organization had on another and because there were advantages and efficiencies from joining together. However, when annexed to other service districts, private companies, and municipalities, the facilities proved inadequate, the complexity of boundaries increased, and organizational proliferation at the supra-local and supra-county levels supplanted organizational proliferation at the local and county levels.

Second, growth of subdivisions and other living patterns outside established metropolitan boundaries created the need for more water supply and waste water removal organizations. The regulatory agencies responsible for managing these organizations found knowing what was happening an increasingly difficult task. The solution to this problem was further organizational proliferation of regulatory agencies at the supra-county level. These organizations, like the existing municipalities, special districts, and private companies whose problems they were to solve, were limited in both the area governed and in scope. Once created as limited area and special purpose regulatory bodies, their area of orientation and regulatory scope was difficult to change to meet changing needs.

Growth, then, was both the problem and the solution. This too was a problem with the basin developers. The result of the Willamette Basin Task Force study saw more projects similar to those which had been successful in the past as necessary to meet the needs of valley residents. The problem was one of perpetuating an emotional set toward projecting traditional growth patterns. The survey data showed people questioning growth, but the institutional structure of organizations and rules were in need of rethinking. Environmentist groups having a different emotional set were a catalyst which stimulated this rethinking as they learned the ways to influence action.

## CHAPTER 6

## INFLUENCING ACTION

Whenever people become committed to an idea, the next step is to convert that idea into action. The settings and mechanisms for influencing action are diverse and many. I have chosen to discuss specific Willamette Valley cases to illustrate the nature of this process.

Influencing action is a process which mixes commitment with technique and applies both at critical points in the institutional framework. This is a process dealing directly with power and influence, with getting one's own way. Influencing action is a process where self-interest is a requisite for change or the retardation to change. People participate because of their self-interest. They form groups with others of similar or complementary self-interests and together influence action. To participate in the process of influencing action people must take a stand on the lemmas regarding growth, natural resource management, and a host of other interrelated lemmas.

Influencing action--while requiring commitment, technique, taking a stand--is a process which takes place in settings where a diversity of interests are represented. It takes place at all levels of the political system from neighborhood to nation. The expectations of success are general, but the actual results are incremental. Piece by piece and bit by bit change occurs. The settings and mechanisms discussed here are bits and pieces put together to give us some understanding of the process and how privateering worked in the Willamette Valley environmental decision-making.

Settings

Settings for influencing action include any place, situation, or set of actions in which there is the exercise of power. For actions pertinent to Oregon and the Willamette Valley such settings were actions of local government, the biennial sessions of the legislature, meetings of regulatory commissions, activities of voluntary associations, and expressions of the people.

To study all of these settings was not possible; therefore specific settings were selected for intensive study while others were omitted. The specific settings studied were local government actions in the Tualatin Valley and in Woodburn; the 1971 session of the legislature; the monthly meetings, during 1971, of the Environmental Quality Commission; the monthly meetings, during 1971, of the Oregon Environmental Council; and expressions made by citizens affiliated with organizations who appeared in each of these settings.

## Local Government

Local government, in this case city and county government, was one of the settings in which people influenced action. Those influencing action did not do it in the public setting of council, committee, and commission meetings. Rather those influencing action did it by becoming councilmen, committeemen, and commissioners. By influencing the actions of their respective decision-making bodies, they obtained actions beneficial to their self-interest and the self-interests they represented.

In most cases the councils, committees, and commissions of local government stimulated very little public response. The city council and planning commission meetings observed usually attracted less than 10 people. When one realized that these meetings were just public show of decisions already worked out, the lack of public participation was easily explained.

Reasons for not doing more decision-making in public were the time factor, lack of public interest, and a fear of emotionalism. Most councilmen, committeemen, and commissioners participated in local government activities as an extra duty. They had other full time jobs which occupied more of their attention. They were, then, continually attempting to perform their local government duties with the least commitment of time. Further, the observation of public meetings of local government showed little public participation. The councilmen, committeemen, and commissioners saw this. They had also experienced the difficulties of getting citizens to participate on committees, of getting expressions of public opinion which would help in making decisions, and of what they called public apathy. When a controversial issue did arise, the council meeting would overflow with people, people would contact councilmen, citizens would even threaten to boycott the business of a councilman because of his stand on an issue. In these situations councilmen, committeemen, and commissioners expressed the desire to let reason and rational thought prevail over emotionalism.

In the Willamette Valley as elsewhere examples of privateering can be found where decisions were made which benefitted the self-interests of councilmen, committeemen, and commissioners. Land was rezoned which enabled a member of the planning commission to sell it at a higher price, streets were improved next to a developer's property, city boundaries circumscribed but did not include a councilman's undeveloped property, and so on. Further, examples were found where the activities of councils, committees, and commissions benefitted the self-interests of businessmen, realtors, developers, and retired people. This should not be a surprise because these were the people who ran the council, accepted committee appointments, and sought county offices. These were the public participants. They participated in the system, they learned how it worked, and they made it work to serve the public interest complementary to their self-interests.

## The Legislature

Oregon legislators prided themselves on being a citizen legislature. In the mind of the legislators, being a citizen legislator meant that one took time out from business, professional, and work obligations to attend to running the affairs of the state. This was the opposite of the federal situation and the situation in other states where legislating the affairs of the state was a full time job.

The 30 citizen legislators of the Oregon Senate and the 60 of the House were not, as one might expect, *typical* in the sense of being representative of all the different minorities of the state. In fact the 1971 legislature did not have a Black, Mexican-American, or non-white legislator. The Senate was composed of 16 democrats and 14 republicans while the House had 34 republicans and 26 democrats. The average age of the legislators was 51 in the Senate, and 45 in the House. There were two women in the Senate and five in the House. One third of the legislators were from business and industry. The next largest group (23 percent) were lawyers, followed by educators (17 percent), and ranchers (12 percent). There were only two legislators identified with labor, and there were no housewives.

The affairs of the 1971 legislature lasted from January to June. Over 1500 pieces of legislation were introduced, and of these 46 percent were passed and signed by the governor. Some of the legislation was prepared by interim committees, committees meeting between legislative sessions; some was legislation modified from previous years; and some was legislation prepared by business, labor, agriculture, the professions, environmentalists, or governmental agencies to correct problems which they perceived. As might be expected the legislative session started at a somewhat leisurely pace and then picked up momentum as the time set for ending the session approached.

Public participation in legislative decision-making required the commitment of time by citizens away from their full time jobs in the same manner as with the legislators. Key legislative decisions were made in small unceremonial sessions between legislators and lobbyists known to the legislator to represent important self-interests. Timing dictated that these sessions occur when the climate was right for legislative passage. Those groups with full time lobbyists at the legislature were available to participate in important final decision-making.

One example of having lobbyists in the right place at the right time was a committee meeting called for the purpose of considering a bill to allow the county assessor to collect the assessments of non-profit water corporations. The hearing on this bill was interrupted to make amendments to the nuclear siting bill. The time was late in the legislative session and timing dictated immediate attention to this important piece of legislation. As the hearing unfolded, it became apparent that most of the people in the room were not there for the purpose of commenting on the non-profit water corporation bill. Instead they represented



various self-interests related to nuclear power plant siting. Environmentalists, very concerned with this legislation and very much in evidence at the public hearings on nuclear power were not among the group. The group of legislators and lobbyists together worked out the amendments.

Part of the strategy in getting favorable legislation passed was being able to make inputs to legislative decisions. To do this, full time followers of the legislative activities increased a group's advantage.

### Commissions

Oregon, like many other states, divided the executive powers of government between the governor as chief executive of the state and a large number of relatively autonomous commissions. Commissions having an impact on water management were the Water Resources Board, Soil and Water Conservation Commission, Environmental Quality Commission, Fish Commission, Game Commission, Board of Forestry, Board of Agriculture, and Land Board.

The structure of each commission varied. Usually there was a group of policy determining commissioners supported by an administrative staff which carried out the day-to-day activities of the commission. In 1971 the administrative staff varied in size from over 500 in the case of the Forestry Department to less than 6 in the case of the Soil and Water Conservation Commission. The Forestry Department also made the largest demand on state funds, \$4,500,000; while the Game Commission and Division of State Lands contributed monies to the general fund.

Membership on the policy making commissions was usually odd in number, varying from 3 to 11 voting members. The Land Board was unique among commissions in that it was composed of the governor, secretary of state, and state treasurer. Most Oregon commissions were composed of citizens with interest, but not necessarily special background in commission affairs. The commission administrative staffs were the primary instigators of action. Commission meetings were usually held monthly, quarterly, or depending on the commission work load. Commissioners were not well paid for their services. Their activities were thought of more as public service.

Of the 48 commissioners on the 8 water resource oriented commissions, all but 2 were men. They ranged in age from late 30's to early 70's. Thirty-five percent were from occupations related to agriculture. This was largely due to the composition of the Soil and Water Conservation Commission and the Board of Agriculture. The next largest occupational category represented was business and industry with 27 percent of the positions.

Other commissions related to water resource utilization were the Marine Board, Highway Commission, and Board of Health. The Marine Board's concern was water safety. The Highway Commission administered the system of state parks, scenic waterways, and Willamette River greenway programs.

The Board of Health was concerned with domestic water quality. With the exception of the Board of Health where over half of the commissioners were doctors, business and industry were the most heavily represented occupations.

The usual procedure was for each commission to act autonomously. Coordination between commissions was a function of the eclecticism of the principal administrator. The Fish and Game Commission often worked together due to the similarity of their tasks. Most commissions acted strictly in terms of their statutory mandate.

The Environmental Quality Commission was chosen for more detailed study because it was dealing with issues which were attracting considerable attention. The members of the commission in 1971 were all men, ranging in age from 39 to 68. Occupationally, there was a banker, planner, attorney, architect, and chemist.

The Environmental Quality Commission and its predecessor the State Sanitary Authority had been working on water quality enhancement since 1939. With the help of a waste discharge permit system enacted by the 1967 legislature the Environmental Quality Commission had been successful in markedly improving the quality of the Willamette River. Since 1967, air, solid waste, and noise pollution were added to their array of responsibilities.

In its policy decisions the commission had to work out questions of timing, economic cost, and levels of environmental quality. Many of these decisions were made in the face of the conflicting interests of environmentalists and those developmentally oriented.

With respect to waste water management, the commission dealt with two major sets of dischargers, municipalities and industries. The problems of each were somewhat different although the timing, economic cost, and environmental quality decisions were common to both.

Municipalities were faced with the problem of coordinating various types of local, state, and federal financing for municipal waste water treatment. Municipalities could seldom muster sufficient financing from local sources to improve waste water management facilities. Therefore, they required assistance from state and federal sources. The Economic Development Administration, Farm Home Administration, and Environmental Protection Agency each had financial aid programs. In addition, the Environmental Quality Commission administered a state program of grants and loans.

The timing for financing had to be coordinated with engineering design, adequate weather for construction, regional planning, and the mood of the local government officials and citizenry. With a greater demand on federal funds and the administrative red tape inherent in any governmental funding program, dissatisfaction with enforced regionalism, a construction season restricted from May to September in Western Oregon, and overriding local political issues, timing was a difficult process of

puzzle fitting. Delay was usually the cost of working out this complex puzzle of financial, technical, construction, and coordination problems.

Industries on the other hand, had less problem with organizing finances. Their reticence to undertake pollution abatement programs centered on the economic impacts and the effects on their competitive advantage. The following are paraphrases of comments heard at Environmental Quality Commission hearings.

The proposed standard increases costs which adversely effect our competitive position relative to other areas of the country.

This new standard will have a traumatic effect on the industries of this state and could result in loss of jobs.

More research is needed to develop the technology to implement this standard.

More research is needed to show that this standard is necessary.

Don't do it for the sake of doing, wait for sufficient facts, know where you are going so that you can proceed in an orderly manner.

We are studying the problem and its solutions and will let you know our conclusions.

The solution should be within the bounds of economic feasibility.

The solution should be reasonable and practible.

If these standards are implemented we will have to curtail or shutdown operations.

The problem should be solved at the least cost.

We are not building new plants in Oregon because we have to remain competitive.

These standards would force small plants to shutdown.

The problems these new regulations set out to correct are taken care of under existing regulations.

These standards will have traumatic effect on the industries of this state.

No other states are doing this.

More data are needed to establish standards at this time.

These standards are unrealistic and are too restrictive.

The draft of the standards is semi-scientific and incomplete.

Different areas require different standards.

These statements, indicating a reticence to increase costs for the sake of questionable environmental gains, were mixed with such other statements as:

We are anxious to do our part to improve the environment.

The commission should be congratulated on a fine job, and its leadership.

Oregon has been a pacesetter in the field of environmental quality.

Then the speaker went on to call the proposed standards "inspired guess work, not supported with facts," and used the other ploys as appropriate. Industry, faced with problems resulting from programs of environmental enhancement, requested delays and participated in actions directed at achieving delay.

These problems of timing lead one commissioner to tell the legislature that the present permit system "rewards the procrastinator." He suggested there was a need for standards of the "thou shalt" rather than the "thou shalt not" variety. The commissioner felt that the standards should stimulate creativity rather than delay.

Such was not the case. The standards employed by the Environmental Quality Commission were more like the rules of the game which were to be followed if enforced and which stimulated creativity regarding ways of avoidance. As the rules of the game, they had to be specific. The objectives had to be quantified and the sanctions for not meeting these objectives explicit. As in a game the players had to know the exact way to score points and the size of the penalties. Also as in a game, sometimes the risk of a penalty was a more advantageous decision than being compulsive about the rules. Generally, as with good sportsmen, most industries played the game according to the rules. As with all activities, there were those who tried to take advantage of the rules.

The municipal and industrial waste water management problems were compounded where small towns and polluting industries tried to

work together. Quite often the municipal and industrial pollutants were so different joint projects were not feasible. Further joint projects compounded the timing and economic cost issues. The Environmental Quality Commission was essentially the referee between the environmentalist, conservationist, and preservationist interests pushing for environmental quality enhancement and developmental interests whose priorities favored preservation of competitive advantages, markets, and profits.

### Self-Interest Groups

Self-interest groups or special interest groups are the catalysts for influencing action. These groups accept as true a specific set of lemmas and evaluate the activities of local government, the legislature, and commissions in terms of their philosophic positions. In Chapters 2, 3, and 4 the nature of these philosophic positions were discussed and some of the dilemmas for decision-making were identified.

I call the special interest groups "self-interest" groups because they attract individuals who have similar or complementary self-interests. Participating in group action these individuals devise ways for their evaluations of actions to have an impact. A second reason for using the self-interest terminology is that survey data indicated that people blamed themselves as well as industry or the artifacts of industry for environmental problems. Both the Louis Harris and Associates survey and the survey work in Woodburn and the Tualatin Valley led to comparable conclusions. Self-interest groups, then, were composed of people who not only accepted the blame for environmental and other problems, but they were also composed of people who accepted the responsibility for bringing about change.

In terms of who had the greatest influence in correcting environmental problems, people indicated the state government for issues facing the state and local government for issues facing the community. People did not see themselves as having an influence in solving the environmental degradation. The self-interest groups, then, were composed of people who first recognized a problem and second accepted the responsibility for dealing with that problem.

After the appropriate governmental agencies, people saw various self-interest groups as having influence in correcting environmental issues. This was borne out by observation of the legislature and state commissions. In these settings self-interest groups were the principle agents influencing decisions. For example, Associated Oregon Industries represented the self-interests of industry, and the Oregon Environmental Council represented the self-interests of environmentalists.

The structure of a self-interest group consisted of three major roles. First, there was a small group of activists. The activists were the people most strongly committed to the goals of the group and were the principle implementors of action. This group was very small compared with the total membership of the group. For most newly formed groups

the activists numbered 5-10 people. These people were the ones who planned, organized, and carried out activities in the name of the group. Without a core of activists no self-interest group could persist. The activists were highly motivated and committed people, giving freely of their time, energy, and resources for the success of the group's projects.

The next level of involvement were the legitimizers. This group was usually about three times larger than the group of activists and usually included all the activists. The legitimizers constituted a policy-making function. If a single legitimizer lost interest in the activities of the organization, it was not as fatal to the organization as when an activist dropped out. Because of the policy-making nature of the legitimizers, their recognition in the wider society was often considered as a requisite for selection.

Environmentalists, usually tried to be nonpartisan. In business and industrial groups, legitimizers were selected in accordance with their stature among businessmen, industrialists, and in society generally.

New members to the group of legitimizers were usually selected by the existing group of legitimizers on the theory that they did not want the organization to be infiltrated by members of groups with competing self-interests. In order to keep the legitimizers active, they were often divided into special committees which reflected the programs and self-interests of individuals in the group.

The third group of people was the largest. These were the advocates. This group was usually from a few times to several hundred times larger than the group of legitimizers. The advocates were those who supported the activists of the organization enough to contribute, at least, dues and their name to the group. The advocates, who were not activists or legitimizers, seldom became involved in the group's programs. Their primary support was financial and lending the weight of number to the positions worked out by the activists and legitimizers.

A group may, if it is politically active, develop procedures to get expressions of support from some of the advocates. When evidence of public support for a particular position was required advocates were solicited to telephone, telegram, or write the appropriate legislator, commissioner, or councilman. For the most part, however, the role of the advocate was passive rather than active.

For a self-interest group to have an impact in influencing action it did not have to be large. With the exception of labor unions self-interest groups with a population of advocates usually less than one percent of the total population had significant impacts. Depending on the ability of the group to use the system, stimulate support from its advocates, effectively use its legitimizers, and solicit financial support for its activities the impact could be increased.

The roles--activist, legitimizer, and advocate--were the components of self-interest groups and were common to all the different self-interest groups. Several processes, however, governed the evolution of self-interest groups as they gained recognition for their activities.

One process was for the group of activists to evolve an administrative structure. Initially when the group was formed, the activists contributed their time, energy, and resources because of their commitment to the lemmas supported by the group. As they became more successful at achieving their ends, the population of advocates grew and became more stable. Stable sources of revenue and strong support led to the hiring of an executive secretary or executive director to manage the activities of the group. From this a secretary was hired, and then other specialists which the group felt were necessary.

A second process was for the role of advocate to become institutionalized. In this process the development of a predictable and stable population of advocates was the goal. The advocates were no longer those who chose to join, but the advocates, based on their social position, were expected to join. The labor movement and chamber of commerce acquisition of members would be an example of the being expected to join aspect of this process. Mechanisms, too, were devised to make joining painless. Such mechanisms were direct withdrawals of dues from an individual's paycheck, a self-imposed tax on sales, etc. The new environmentalist groups had not developed an institutionalized set of advocates.

Finally, for some self-interests, the goals of the group became institutionalized in the purposes and organization of government. Once gaining governmental acceptance of their lemmas a governmental organization developed around that philosophy. Statements about preservation, conservation, and growth in the charges of state commissions was one example of this process. People were quick to identify the allegiance of governmental agencies. The Water Resources Board was charged as serving the self-interests of the basin developers, the Soil and Water Conservation Commission as serving the self-interests of farmers associated with soil and water conservation districts, the Fish Commission as serving the self-interests of commercial fishermen, although the view of the commercial fishermen was that the Fish Commission served the self-interests of sports fishermen. Environmentalists saw the Environmental Protection Agency as developing into "our" voice within the government.

#### Mechanisms

Part of the strategy in getting favorable legislation passed and getting favorable administrative decisions was being able to work the system to one's own advantage. To do this full time followers of legislative, governmental, and other activities increased the group's advantage.

All self-interest groups were cognizant of the mechanisms necessary to optimize their group's power and achieve their goals. All

lobbied in the legislature, got their people on state commissions, identified sympathizers within organizational settings. They sought other forms of financial support through federal grants, cooperative programs, internship programs, etc. They used the media to increase public knowledge and support of their objectives.

### Lobbying

Lobbying was an activity which any politically active group must undertake, if it was to effectively work the system in order to achieve its goals. Lobbying is primarily an activity for the delivery of information on the substance and basis of a group's point of view. The legislature was the setting for observing this activity.

The power of groups coming to the legislature to lobby came from several sources. One obviously was the number of lobbyists. More important than the number was the fact of being at the legislature all the time. Lobbyists had to be available to present their information when required for legislative decision-making. Important committee sessions at which key decisions were made were often not announced to the general public. More typically committee chairmen invited those lobbyists representing points of view which had been articulated at public hearings on the topic to help work out the final form of important legislation. Since timing was a critical part of winning legislative support, lobbyists had to be readily available.

Once admitted to the decision-making process for a particular bill, the lobbyist's say was related to the quality of his information and to the power of the group he represented. The quality of facts was difficult to precisely measure, but legislators were looking to lobbyists for accurate, reliable, and valid information. A lobbyist's power was measured by his influence on other legislators, by the number of voters he represented, by the economic importance of his organization, and by his commitment. Power to attain favorable decisions could be augmented by learning the operation of the system and manipulating this to the group's advantage.

One indicator of the financial resources of the various groups involved in influencing the legislative decision-making process was their financial contributions to fueling the political process. Reviewing contributions to the candidates for Congress, governor, and Willamette Valley legislative seats showed that the major contributors were from business and industry, labor, and elections self-interest groups. Elections self-interest groups were usually an organization for collecting and allocating funds derived from individuals and groups. They were typically party or cause oriented. More of labor's contributions went to democrats while business and industry supported, more often, republicans. Labor contributed primarily through union organizations while individual donors associated with business and industry contributed more than business and industrial organizations.



No environmentalist group contributed directly to any political candidate in the 1970 election. Neither did examination of large individual donors reveal any environmentalist donors. In fact the environmentalist groups tried to be nonpartisan, and support environmentally oriented candidates irrespective of party.

After the 1971 legislative session the Oregon Environmental Council prepared a summary of the environmental voting records of Oregon legislators. Of the 34 legislators siding with the environmentalist 80 percent of the time, twice as many were democrats as republicans. Five of the seven women in the legislature were in the environmental group of legislators, and the average age of the environmental group was lower than the non-environmental group of legislators.

Given the relation between the republicans and business and industry, and given the environmentalist-industry conflict these findings would be expected. There was, however, no consistent pattern. Over half of the legislators who were educators sided with the environmentalists, 30 percent of the time. Also siding with the environmentalist position were a realtor, a builder, nearly one third of the businessmen, almost half of the lawyers, and one fourth of the ranchers in the legislature. These data would seem to substantiate the view that the individual's background, experience, and self-interest were principle determinants of voting behavior.

The basis of the environmentalist success in the 1971 legislature was not their economic power. It was their commitment both in terms of time and number. The environmentalists did not have as many lobbyists as business and industry (Table 17) which had half the total lobbyists. The Oregon Environmental Council did have more lobbyists registered, ten, than any other organization. Oregon Associated Oregon Industries was second with eight and the Oregon AFL-CIO was third with six.

Table 17. Lobbyists, 1971 Legislature

Interest	Percent of Total n = 322
Business and Industry	51
Agriculture	6
Government	5
Environmentalist	7
Labor	7
Other	24
Includes education, health, public safety, religious, professional	

The number of lobbyists was one index of commitment. The ability to generate support from advocates in the form of letters, telegrams, and telephone calls was another. Coupled with these were the strongly positive votes on the pollution control bonds and scenic waterways initiatives which were on the 1970 election ballot. Support of these measures indicated to legislators public sentiment.

### Forums

Each self-interest group at the legislature or appearing before state commissions recognized that its power was related to a broad participation of the people. Surveys revealed that 62 percent of the respondents felt the media was the mechanism responsible for making people aware of environmental issues. Thus, each utilized radio, TV, magazines, and newspapers as forums for expressing their points of view. The objective was adding to the group of advocates or at least adding to the number of people informed on their position and willing to support it in opinion surveys, voting behavior, or other actions such as allocation of time or resources which were indicative of sentiment.

The Oregon Environmental Council striving to gain these forms of recognition was pleased to be mentioned in the *Wall Street Journal*, *New York Times*, *Christian Science Monitor*, or *Houston Post*. The council was also upset by the fact that the local newspaper consistently failed to capitalize its name. Many of the media contacts did not result from correspondents discovering the activities of the council. Many resulted from council members knowing people in the media and working with them. Further, self-aggrandizement was not the only goal. The council tried to get qualified people to present facts pertinent to their points of view. The council's director participated in radio and TV programs both as a discussant and as a collaborator. The media became more interested in environmental activities as the people demonstrated by their allocation of time and resources that they were interested in the environmentalist point of view. Business and industry followed very much the same routine to articulate their point of view.

Service and garden clubs were another forum for securing advocates. The Oregon Environmental Council developed a slide show for the "peas and carrots" crowd, service clubs. It presented the council's point of view and general objectives. The slide show which was a tape, synchronized with slides was prepared, gratis, by a professional who charged several thousand dollars for a comparable program.

The schools were a third forum. Portland General Electric, engaged in winning support for its nuclear power plant on the Columbia River, 40 miles north of Portland, developed a study-kit for use in schools. The kit called "More Power to You" emphasized the needs for more power and the benefits of nuclear power. The kit included a planning game which was modeled after the service area and needs of Portland General Electric.

### Time and Timing

I have mentioned the factor of allocation of time as an indicator of people's feelings toward an issue. And I have mentioned the timing of legislation and testimony at hearings. Time, then, was a critical variable both in getting one's point of view across and in determining the level of advocacy. It was also a stimulant to action. Invariably, people delaying on environmental enhancement were sparked to action when required to come before a commission and explain their delay.

Presenting one's point of view to a commission or legislative committee required careful management of the time allocated. Generally the time available was short, typically about five minutes. The best speakers, those who got the most attention, were people who knew the extent of the power of the group hearing the testimony and were people who were able to bore in on specific and detailed points. General philosophy statements, very typical of environmentalists during their first interactions with the legislature and commissions, were not well received by officials hearing the testimony. Very often the audiences applauded statements with which they sympathized. Legislators and commissioners were relatively unmoved. In fact, in several situations audience approval was rebuked. Legislators and commissioners read the newspapers, they knew the dilemmas; they could tell based on the commitment of time, financial resources, and energy where sentiment lay. What they wanted to know was specific information which could enable them to work out an adequate solution given the differing points of view.

The etiquette regarding position in the speaking order gave those representing recognized organizations first, and those speaking for new groups or as individuals came last. Clearly this conveyed advantage to the longest and strongest organized because they spoke to an attentive set of commissioners, legislators, or councilmen, and they spoke to the largest audience.

In an Environmental Quality Commission meeting, an individual requested time to present evidence on pollution by a company in the Tualatin Valley. The speaking time allocated was near the end of a lengthy day's agenda, at 3:45 in the afternoon. The individual's presentation was interrupted for taking too much time and was finally cutoff after 30 minutes. He was not allowed to call other people to speak who had information on the pollution situation. In the end, however, his persistence showed by commitment by time and energy did get the staff of the commission to investigate the problem and did get somewhat stricter action from the commission.

Paradoxically, in order to stimulate public participation, the commission subsequently allocated 30 minutes before each meeting to give the public time for airing its views. Due to a lack of public response the period was discontinued after seven meetings. The Environmental Quality Commission, like other commissions and legislative committees wanted public participation, but only wanted it in terms of its own self-interest. The Environmental Quality Commission mildly rebuked its staff

for not keeping it informed in the case of the Tualatin citizen having to inform the commission of a water quality problem. Other problems where citizens and interested organizations came to the commission with suggestions for commission action were sometimes received with "Where were you when we were fighting pollution alone. . ."

Time was also a factor in legal challenges and administrative appeals. Delay, requests to redo, amend, or add to case materials, allowed only those with a strong commitment to persist. Increasing the time individuals or groups must commit to make their point effectively prevented their continued advocacy or derogation of actions. For someone interested in delay, this tedium enabled their continued delay.

As a general process those groups outside the decision-making system which demonstrated that they did have a constituency gained access to the decision-making process. Environmental, labor, industry, and citizens were the groups represented on a committee to award the Environmental Quality Commission's Oregon Cup, symbolic of an outstanding job in pollution abatement. The commission was asked by the animal industry to create an advisory committee composed of cattlemen, horsemen, dairymen, sheep growers, swine growers, fur breeders, etc. to assist in implementation of the commission's animal waste standards.

#### Words and Wording

In addition to commitment shown by the number of constituents, allocation of resources, and allocation of time, words played an important role in the mechanisms for working the system to one's advantage. Terms such as "best practicable," "reclamation," "filling," and "feasible," were critical to changing or maintaining one's point of view. Slight changes in wording affected major changes in legislation and administrative policy.

One example of such a situation was in the 1971 legislature. A bill to establish penalties for violators of air and water pollution and solid waste laws was being considered. The bill had been influenced by environmentalists and was worded so as to develop an environmental consciousness on the part of industry. Appealing to the criterion of fair-play, an industrial lobbyist argued that it was hardly fair to fine someone without first warning him of his violation. The lobbyist for industry requested and got the insertion of the language that the penalties "shall not be imposed until the person incurring the penalty or penalties shall receive five days advance notice in writing. . ." (House Bill 1504, Engrossed, 1971). This simple change in wording abrogated the environmental consciousness aspect of the bill.

Other bills used different wording to accomplish changes in major environmental awareness. One attempted to shift the burden of proof from the public, being requested to show that environmental damage was being done, to the developer who was to be required to show no environmental damage would be done. Other bills introduced required waste water to be

returned upstream of the intake, required polluters to identify themselves with a sign on the most heavily traveled highway adjacent to their property, and prohibited public agencies from purchasing from manufacturers not in compliance with pollution regulations. One bill tried to establish the concept of stewardship for natural resources, and another tried to recognize Mother Nature was better than man as a manager of natural resources.

The phraseology "highest and best practicable" was another set of terms argued over by environmentalists and the developmentally oriented. Environmentalists preferred the terms "highest and best practicable" because this meant a continued search for better pollution abatement technology. Industries preferred the shorter "best practicable" because this required use of only the best available technology which was also interpreted as the most economically feasible technology.

The careful selection of words permitted the identification of specific groups of people. The U. S. Constitution, Article I gives Congress the power to provide for the "general welfare," and legislative actions are directed at the "public." In reality, however, legislation and administrative rules must be more specific and identify specific roles, such as farmer, water user, polluter, Oregonians of modest means, etc. For the North Portland area around Columbia Slough, a particularly polluted area and a cause of considerable aggravation for over 15 years, the legislature passed a law which prohibited the dumping of substances in a navigable stream, street, alley, lot, or field in or adjacent to a municipality. Municipality was defined as "having a population of 175,000 or more or in any home-rule county having a population of 200,000 or more." Portland and Multnomah County were the only place which could satisfy this definition.

### Emotionalism

The environmental movement had a year in the public eye before the emotionalism it generated in the popular press was shifted to growth kinds of considerations. From Earth Day, April 22, 1970, through the reversal by President Nixon of his economic policies, August 14, 1971, the environment held the attention of a large segment of the American public. Many people became very emotional about and involved with the condition of their environment. Critics of the environmental movement warned of the emotionalism of its advocates.

Emotionalism connotes acting without rational base of thought, acting on impulse. Emotionalism in social action is more acting based on commitment to a single or limited set of values. To be emotional is to do something while casting aside concern for all the related factors which a doubter or non-advocate would take into consideration and arrive at the decision not to act. Emotionalism, then, is a necessary requisite for action. It requires a degree of narrow mindedness because the actors have to cast aside the reasons for not acting. Clearly the effective activist must be aware of the reasons for not acting so that in his own

mind and more importantly in the minds of people he must confront, he can allay the opposition to his actions. Yet emotionalism is an element in overcoming the inhibitions to act.

Emotionalism, then, is a requisite for action. Without it there would be no action. Lacking an emotional attachment to an idea or action, people would not commit their time, energy, or resources. Emotionalism is reflected in people's actions. Emotionalism about environmental issues was necessary for the lobbyists of the Oregon Environmental Council to commit their time. Emotionalism was required for the "daytimers" to give of their time to run the council's office. Comparable levels of emotion can be found in the formative stages of the labor movement, in the formation of chambers of commerce, and in the formation of any other organization which advocates a particular set of actions.

No individual or organization can free himself of emotionalism as the following statements are designed to indicate. First, a citizen complimenting the Corps of Engineers.

All right, if he wants to know what, why they need this, why they have built these dams on the Willamette, why they built it all over--it is to make this Willamette Valley, which is probably the best place in the world there is to live, a livable place. . . .So, that is all I wanted to say, that I am very proud of what the Army Engineers done except for what they have done to Cascadia--they have not done nothing (Citizen Statement, U. S. Engineer District. Portland 1969:26).

Business and labor on environmentalists:

For some unexplainable reason the advocates of the free enterprise system, business and labor, have not been able to convince these radicals, these pessimists, their friends in government and their cheerleaders within the national media, that the only real progress made toward an ideal environment has been made by *this* country; and only by that segment which is being punished for making a profit--the free enterprise system (Western Environmental Trade Association 1971:1).

An environmentalist commenting on another Corps dam:

The Sierra Club is convinced that this project is probably just another "Make Work Project" for the Corps of Engineers that we might be better off without. . . .If we assume for the purpose of this hearing that we must face the awful decision of where to build a flood control

dam. . .consider placement of the dam where it will do the least damage. . . (U. S. Army Engineer District. Portland 1969:12).

Occasionally governmental agencies get emotional. In this case it was the National Environmental Protection Act which was being discussed before the Pacific Northwest River Basins Commission.

NEPA created a paper monster which threatens to strangle all processes of resource development. . . . Real tigers of environmental protection we can use, but paper tigers are of no value and great potential harm (Meeting, February 18, 1973).

None of the people making these statements would admit to being emotional. These were statements of fact as seen by each of the speakers. The more common practice was for the group taking a "reasonable, logical, and practical" position to challenge their adversaries as being emotional. For example:

The Sweet Home mayor charged that environmentalist organizations were made up

. . . almost entirely of persons who live outside Linn County and it gets impetus from a national organization which has reached a decision without understanding the facts of the situation. We must use common sense. . . . We contend that the proponents of this plan are filled with lofty ideals, but some with highly impractical plans. . . . (Oregon. State Highway Division 1971:5).

The Director of the State Water Resources Board commenting about the same individuals:

A matter of even more immediate concern, to the State of Oregon, is what appears to be blind opposition to construction of Federal storage projects. . . . (Oregon. Water Resources Board 1972:1).

The Western Environmental Trade Association (1971:1) commenting on the emotionalism of the environmentalists.

. . . today we are again threatened by an awesome adversary;. . . who would destroy the system that has made America great. I refer to the self-anointed, irresponsible, irrational, fanciful environmentalist, . . . .

And a citizen criticizing the work of scientists.

. . .it is disquieting to me to see tax money spent to get experts to study these things, both on the State level, on the national level, sometimes on the county level, and then I find that a large segment that is, I believe, mostly employed by the State is conducting their own private research and I wonder how much is being paid for with public salaries. These figures are being used against the legitimate figures (Oregon. State Highway Division 1971:47-48).

Emotionalism is reflected in people's actions and what they say. The commitment of time, energy, and resources without tangible economic return was an indicator. The use of words and wording connoting intense feeling, emphasizing what should or ought to be done, and the use of value-laden terms were all indicators of emotionalism. Emotionalism was the basis of commitment. It stimulated people to work for little or no pay for a cause in which they believed. It stimulated people to learn how to use the system to their advantage by lobbying, by identifying and using forums, by managing time and timing, by manipulating words and wording. Emotionalism was the energy for self-interest.

Councilmen, legislators, and commissioners put down emotionalism on the grounds it was not rational or reasoned. Yet emotional commitment on one side or the other of the lemmas regarding growth and natural resource management was a major element in the way governmental agencies, businessmen, and environmentalists evaluated environmental decisions.



## CHAPTER 7

## HUMAN RESOURCE LEMMAS

Given an emotional commitment to one position or other regarding growth and natural resource management, given knowledge of the mechanisms for working the system, and given access to the appropriate settings, an individual or group was not totally equipped to take a stand. For the individual or group interested in changing actions and attitudes relating to environmental decisions there were still other lemmas to be considered. Decisions have to be made within a wholistic context. Thus, other lemmas related to human resource issues, too, have to be incorporated. These focused on such dilemmas as diversity and similarity of actions and attitudes, centralization and decentralization of authority, elitism and broad participation in decision-making, and generalization and specialization of roles. These were not totally inclusive of all the human resource lemmas which were critical to environmental decisions made in the Willamette Valley, but they recurred often and were important to the people there.

As with the natural resource lemmas, people articulating the polar positions for each of the dilemmas were always present in the valley population. Every lemma was not an issue of concern in every decision-making situation. The lemmas were brought up when an individual or group's self-interest demanded the consideration of these philosophic positions.

Diversity and Similarity

Observation of people and their actions, asking questions about their behaviors and attitudes, and interviewing them about lemmas indicated that no two people were the same physiologically, nor were they the same in terms of actions and attitudes. Diversity was the rule, both physiologically and culturally. Physiological diversity is maintained by the process of genetic inheritance, mutation, variations in the expression of genes, and the environment in which the genes express themselves. Cultural diversity is maintained by innovation, variant forms of social organization, creation and maintenance of social alternatives, and attitudes which emphasize the value of cultural differences.

That many people bear close resemblances to one another in their physical characteristics and in their actions and attitudes likewise is known from observing people, asking questions, and making surveys. Similarities, too, are the rule both physiologically and culturally. Physiological similarities are maintained by adaptation of a group of creatures to an ecological niche. To the extent that niche does not change the

creatures adapted to it will become more alike one another. Such cultural mechanisms as the desire for predictability; people's tastes for one another and desire for predictability in their environment; definitions of quality of life and the institutionalization of indices for its measurement; and the proclivity to design health, welfare, and education programs which assume similarity lead to sameness, uniformity, and conformity in cultural behavior.

The appropriate levels of diversity and similarity of actions and attitudes in society was one of the questions the framers of the U. S. Constitution considered. Madison's discussion of factions indicates that he and the other framers of the Constitution were concerned with how much attitudinal diversity the republic could tolerate.

Madison in *The Federalist* argued that factionalism introduces "The instability, injustice and confusion" into public councils and this has "been the mortal diseases under which popular governments have everywhere persisted" (Commager 1949:9). While seeking to control factions which Madison stated could be either of minority or majority, there was a careful attempt to protect the rights of the minority. Madison identifies two ways of removing the causes of factionalism (Commager 1949: 10):

. . .The one, by destroying the liberty which is essential to its existence; the other, by giving every citizen the same opinions, the same passions, and the same interests.

Neither prescription being acceptable, the framers of the constitution sought to control rather than abolish factions, differences, and diverse views.

The political goal was to allow for diversity of actions and attitudes in the new democracy. The mechanism was to achieve a balance between diversity and similarity. Part of the social process of public involvement with water resource utilization in the Willamette Valley was working out this balance.

The flood control program in the Willamette Valley was designed to eliminate the range of fluctuations of the high and low flows of the Willamette River. The object during the winter flood season was to limit the possibility of extremely high flows. During high water the flood reports would indicate the stage of the river, and also what the level of the river would have been had there been no flood control dams. The purpose was to emphasize to people that the dams reduced the height of the flood waters. From a water quality standpoint the low summer flows accentuated the waste water removal problems when a larger proportion of the flows in the river were made up of waste water from municipalities and industries. Increased summer flows by releasing water stored in the reservoirs diluted the waste water.

The effect of flood control and water quality enhancement was to limit the diversity in the natural environment by attempting to stabilize flows in the river. The effect was to force the extremes closer to the mean. From a criterion of predictability of water flows, this was culturally desirable. Introducing other criterion, such as the maintenance of wildlife habitat, flushing action, etc., the limitations placed on the diversity in flows were detrimental. Those concerned with the management of wildlife pointed out the useful aspects of the diversity in flows.

There was also pressure to force similarity in terms of attitudes toward "good" water utilization. Both the Water Resources Board and the Western Environmental Trade Association ridiculed the position of the environmentalists as uninformed and inhibiting the orderly development of the state's resources. The ridicule sanction was directed at greater similarity by eliminating what the board and the association felt was extremist environmental activism. The ploys to reduce emotionalism had the same effect, for emotional people were those who reasoned differently than the board and the association.

#### Who Should Decide?

Who should make the decision on what program or policy is implemented? People with different natural resource management philosophies can be expected to develop different plans for environmental management. The preservationist, for example, would develop a plan which minimizes tampering with the environment, while the developmentalist would develop a plan to maximize economic gain. Different philosophies place different emphasis on the various elements of the environment.

Given diversity in natural resource management philosophies, then who should decide the best use of water and other resources? Will the decision-makers be those directly or indirectly affected by alterations to ecological systems? The Willamette River Basin is a hydrologic unit. It flows into the Columbia River, which flows into the Pacific Ocean. The plume of the Columbia, depending on the time of year, can affect the entire Oregon Coast. Do all the people living on the Columbia and on the Oregon Coast have an input into the decisions made in the Willamette Valley?

If the criterion is adopted, "Those who pay have the say," what would be the magnitude of the opinions of Willamette Valley residents in the development of their water resources which were nearly totally funded through federal sources? Flood control, the largest benefit in Corps projects, was non-reimbursable.

Conversely, what is the extent of people's rights to alter ecological systems upon which a wider public depends? Since the people of the Willamette Valley had neither the desire nor the resources to fund their own flood control program, they competed for federal funds to do the job. Peoples outside the basin who provided these funds could demand, and justifiably obtain, an input into the planning process. Clearly this

is not meant to say that the citizens of the Willamette Valley should have no say. They should, but if a project is federally funded, there is a federal role to assess the implications on the national income account, distribution of natural resources, national quality of life, and the national environment. The people of the Willamette Valley are, but, one part of the national interest.

Emphasis of national goals to the exclusion of local interests is not uncommon in federal planning. The nation surely bears a responsibility for equitable treatment of the peoples in the area to be affected by some environmental modification. Because the funds for federal projects eventually have to be budgeted by the executive branch of government and funded by Congress this has been the political arena in which the relative magnitude of local versus the broader regional, national, and international interests have been worked out.

#### Centralization and Decentralization

Centralization versus decentralization of authority was worked out at each level of government from the individual citizen to the federal bureaucracy. These levels were continually being added to as the size of the population increased. For Willamette Valley water resources planning seven levels were pertinent. These were the local community, supra-community, county, supra-county, state, supra-state, and federal levels. Those levels indicated by the use of the term "supra" include more than one community but not a county, more than one county but, not a state, and so on.

At each level of government the centralization versus decentralization of authority issue had to be worked out. In the state legislature and with state commissions there were attempts to establish more state control over federal actions. The Environmental Quality Commission in 1972 discussed taking the Corps of Engineers to court over nitrification problems from Corps' dams. Legislators, discussing the state's water pollution control program, questioned the basis "The Feds" had for telling the state how to run their program. The issue was reflected at the community level with local governments threatening to withdraw from the supra-county councils of government. This was usually predicated by the lack of funds on the part of the local government, but also at stake was the dislike for being forced to join in regional planning and systems which some local communities perceived to be more costly even with the enticement of federal matching funds.

Centralization of authority into impersonal bureaucracies restricts the utilization of people's energy and enthusiasm. The decentralization of water resources planning by the Water Resources Board when they established county water resources committees in the 1960's resulted in detailed and extensive reports prepared at no cost to the board on the local water resources planning needs. Members of the Marys Peak Chapter of Sierra Club because of their enthusiasm for a potential scenic waterways designation for the South Santiam River prepared a

detailed and substantive report on the qualities of the river. This was presented to the highway division at no cost to the public for the data gathered. As might be expected the Sierra Club found that the river qualified as a scenic waterway. The report of the highway department, too, reached the same conclusion; however, the Highway Commission did not concur that the highest and best use was as a scenic waterway.

Portions of the expenses of government went to creating and funding new systems of organization in order to bridge the gap between expanding populations and governmental agencies. To bridge this gap many forms of regionalization developed. At the supra-state level the Pacific Northwest River Basins Commission was created, at the supra-county level the Willamette Basin Task Force. Both of these organizations were bounded according to river basin areas--the Columbia in the case of the river basins commission and the Willamette in the case of the task force. Other supra-state and supra-county organizations were created with different boundary configurations.

Councils of government were supra-county organizations created for administrative effectiveness rather than ecological planning effectiveness. Their boundaries cut river basins. The Portland Bureau of Water Works water delivery system encompassed three river basins. In the Tualatin Basin, the waste water removal system was supposed to serve the basin; however, the community of Hillsboro stayed out of the United Sewerage Agency, the basin wide sewerage agency. The decision-makers in Hillsboro felt that they had a superior system, and they strongly favored maximizing local control.

Pressures, then, were for centralization of authority at higher levels of government. Concurrent with this, however, were pressures in the community, county, and state to develop a broader base of input from the public. These pressures were for decentralization of authority.

#### Elitism and Broad Participation

As the size of the population served increased, the ratio of elected officials and policymakers to the number of citizens served became smaller. Oregon legislators served an average of 32,200 constituents. Effectively as the population grew each citizen was losing representation in his government. Sensitive to the need to know what people felt, government agencies and business undertook studies to determine the attitudes people in the Willamette Valley and Oregon on environmental issues. The McCall and Louis Harris and Associates surveys, discussed in Chapter 3 were the result of these concerns to know better what people were thinking. Several state commissions went further than this. The Water Resources Board held meetings in several communities around the state to get people's feelings on water resource needs. The Environmental Quality Commission devoted the first thirty minutes of their meetings to comments from the public.

From the four Willamette Valley councils of government a steering committee was formed to work for the preparation of a Willamette Valley Environmental Protection and Development Plan. The members of the steering committee came from local governments. This situation according to participants, was one which fostered broad participation in decision-making because the local officials were sensitive to the needs of their local constituencies and brought these needs to the regional level. Looking at the age, sex, occupation, income, and social characteristics of local officials indicated that business, industry, and legal occupations; males; and people of upper incomes were typically the people's representatives.

To what extent should people be involved in decision-making? The republican form of government tends toward decision-making by elites. Participatory democracy tends toward broad public participation in decision-making. In the communities observed, the acceptance and form of public participation varied. One legislator asked, "Is it good policy to allow any person to object to some development?" Most decision-making bodies articulated the desire for greater public involvement; however, most wanted this participation in their terms. They wanted public participation adapted to their needs. This requirement, in varying degrees, discouraged the public involvement sought.

The common pattern for the city councils observed was to have a private meeting before the public meeting where they publically acted out the final decisions which had been worked out in the private meeting. The rationale for the private meeting was that decisions had to be worked out in a rational and unemotional manner. The public might misinterpret the deliberations of the councilmen. This was an elitist approach to decision-making. It was based on the presumption that people did not have sufficient knowledge to understand the issues. That some were meant to rule and others to be ruled was the implicit logic of these procedures.

The degree of people's involvement in decision-making is continually being worked out. Everyone was not able to participate in every decision. First, this was because not everyone cared to be an active participant. Only 37 and 52 percent of the people surveyed in Woodburn and the Tualatin Valley had thought about solutions to the environmental problems facing the state. Only 8 percent belonged to a self-interest group.

The second factor which prevented total public involvement in decision-making was time. With more people participating, the time required to work out all the diverse interests was greatly increased. So for time efficiency the size of decision-making groups was carefully controlled.

Third, decisions had to be reached within short time limits. In the legislature the political timing for successfully passing legislation did not allow for all the lobbying groups to be consulted. Given these constraints how do decision-makers obtain an index of people's feelings?

Responses to questionnaires as discussed in Chapter 3 was one index of people's feelings. These data did not place the opinion in a realistic decision-making context for the individual and failed to take into account the individual's experience and background. Questionnaires did provide indices of the strength of feeling.

Voting behavior was another indicator of people's feelings. In April and November of 1970, two water resource related environmental issues appeared on the primary and general election ballots. On the primary ballot was a question for approval of bonding for pollution control bonds. During this period bonding, tax, and revenue measures were having a difficult time securing favorable pluralities. This ballot measure, to bond one percent of the state's assessed evaluation for pollution control bonds, was passed 292,234 to 213,835. Strongest support came from the heavily urbanized centers of the Willamette Valley. Multnomah County which includes Portland, the largest urban center in the state, voted nearly 2 to 1 for the ballot measure.

In the general election an initiative was placed on the ballot to establish several scenic waterways throughout the state. Many of the major newspapers opposed the scenic waterways proposal as being vague. The State Water Resources Board, too, opposed the proposal. The proposal passed. Again the largest pluralities were from urbanized counties. This can be seen by ranking the counties of the Willamette Valley in order of urbanness. Urbanness correlated with the degree of favorable plurality. It could also be seen by ranking the urban areas within counties by size. Here too the more urban, measured in terms of population number, had the greater vote plurality.

Questionnaire data supported this relation between urbanness and favor for environmental preservation and cleanup. Looking specifically at pollution, natural resources, and population issues, data gathered in the Louis Harris and Associates Survey indicated that the more urban the setting the greater the concern with environmental quality (Table 18).

Commitment of time, effort, and financial resources, too, were indicators of people's feelings. Generally both businesses and governmental agencies responded to relatively small numbers of negative comments about their activities. Fifty letters to a state senator on an issue could have a significant effect on how he voted. Knowing this self-interest groups organized letter writing campaigns and communications networks to stimulate expressions of feelings on legislation. The commitment of time and effort by unpaid citizen lobbyists, also influenced legislators.

A fourth common approach used to obtain knowledge of people's feelings was to create an advisory group composed of community leaders or community representatives. This was a popular technique used to formulate county zoning plans. The State Water Resources Board established county water resources committees in the early 1960's to advise them on county water resources problems.

Table 18. Urbanites and Ideas About Environmental Quality<sup>(1)</sup>

	Community Grown Worse	Air Pollution In Oregon Very Serious	Air Pollution In Commu- nity Very Serious	Water Pollution In Oregon Very Serious	Water Pollution In Commu- nity Very Serious
		(percent)			
Statewide Urban n = 212	37	55	55	57	50
Portland n = 187	37	55	52	n.d.	n.d.
Multnomah County n = 253	34	52	47	57	51
Statewide Suburban n = 130	24	44	36	52	50
Portland Suburban n = 175	18	44	23	n.d.	n.d.
Statewide Town n = 211	8	30	9	42	20
Statewide Rural n = 312	18	35	8	52	22

1 Louis Harris and Associates, Inc. 1970:10, 25, 36.

The public hearing discussed in Chapter 4 was another mechanism used to gain an index of people's feelings. Most often at public hearings, the decision-making body or administrator sat as a listener to the expressions of support, disapproval, or other comments made by individuals. At public hearings the decision-makers were looking for new facts upon which to base a decision. Often the hearing provided only rambling, emotional, and peripheral information which was received in a polite but



disinterested manner. As the speakers at hearings became more knowledgeable of what the decision-makers were interested in knowing, the communication between the speakers and the decision-makers improved. For one state commission this improved so much in the space of a year that the commission chairmen publically complimented the participants. Many of the same participants had been at all the commission's hearings. During the period, however, they had learned what the commission wanted to know and what would influence their decision.

At some hearings the speakers were as interested in communicating to the audience present as much as to the decision-makers. In order to make the hearing proceed more quickly and to encourage otherwise bashful people to speak, one commission developed the procedure of taking the microphone to each speaker, rather than having the speakers come to a podium. This confused many who were there as much to address the audience as the commission.

These, in addition to everyday participation of decision-makers in the activities of their society, were some of the ways in which broad participation in decision-making was achieved in a population in which rapid population growth was taking place. One of the social costs of this growth was the difficulty for decision-makers in knowing people's feelings, and the difficulty for people getting a forum for their views. "What could be the impact of my statement, I am only one," was not an uncommon comment. Growth made broad participation in decision-making more difficult to achieve. Understanding people's feelings took time, as did working out diverse points of view, and educating one another on the facts. For the individual, growth made what he perceived as one small voice, even smaller.

#### Specialization and Generalization

Should the decision-maker be in the role of a specialist or a generalist? Because of the complexity of the facts in water resource utilization and management, specialists were required to establish the facts upon which decisions could be based. The procedures of the Water Resources Board illustrated that they relied on specialization and did not feel that the public had sufficient expertise to understand their deliberations. All decisions of the board were worked out in a private meeting of the program committee before the regular board meeting. The resolutions worked out in the program committee were then read at the public meeting and usually unanimously and perfunctorily voted on. Any dissent was carefully worded, and those wishing to express an opinion did so by reading their comments into the record.

The formation of regional water planning agencies, such as the Pacific Northwest River Basins Commission, forced more of a generalist view. General at least in terms of area. The Willamette Valley Environmental Protection and Development plan was an example of a topically general approach to environmental planning. It made economic, social, transportation, legislation, amenities, as well as environment factors

foci of the planning effort. The funding for this project was not obtained, therefore, its generality was not implemented.

These examples should suffice to illustrate that the human resource dilemmas of diversity and similarity of actions and attitudes, centralization and decentralization of authority, elitism and broad participation in decision-making, and specialization and generalization of roles were continually being considered. At all times individuals and groups representing the various positions were active, although the degree of activity varied. At all times there was an attempt to determine how much diversity, decentralization, participation, and generalization would suffice. With growth the pressures for more similarity, centralization, elitism, and specialization increased. This was because of the greater decision-making efficiency which was possible. Yet other considerations emphasized the value of diversity, decentralization, broad participation, and the need to be more general.

The process for making environmental decisions seemed one of charting a viable course somewhere between the dilemmas of unlimited growth and no growth, of management by man and management by nature, of diversity and similarity, of centralization and decentralization, of elitism and broad participation, and of generalization and specialization.

## CHAPTER 8

## SELF-INTEREST IN ADAPTATION

Discussions of "Interpreting Public Opinion," "Basin Developers," and "Meeting Basic Water Requirements" show that self-interest was an element for explaining the actions of citizens, governmental officials, businessmen, environmentalists, and others. Self-interest was certainly not the whole explanation, but self-interest was a critical and recurring element of the explanation of the actions taken. When discussing the settings and mechanisms for "Influencing Action," emotionalism emerged as the energy source for self-interest. Emotional commitment was what stimulated people to take a stand and to affect environmental decision-making.

George Gaylord Simpson in *The Meaning of Evolution* (1949:292) states, "Man's intellectual, social, and spiritual natures are altogether exceptional among animals. . ." He goes on to emphasize that "they arose by organic evolution." I have illustrated the operation of self-interest in the process of making environmental decisions. I have shown that self-interest was an element and that self-interest was energized by emotional commitment.

Of what value is self-interest and emotional commitment for human adaptation? All animals adjust to their environment by organic means of adaptation. This may be by genetic change or by the plasticity of the animal. Social organization, too, is a common adaptive mechanism used by many populations of animals. I am suggesting that self-interest, energized by emotional commitment, is another important adaptive mechanism which, if not useful to all animals, is at least important for man's adaptation.

The primary value of self-interest is in the rate at which changes can be made. Clearly man is an animal who can manipulate his environment. The major flood control and water quality enhancement programs of the Willamette Valley demonstrate that. Self-interest, energized by emotional commitment, both stimulated and retarded these environmental management programs. The public involvement examples in the chapters on "Basin Developers" and "Meeting Basin Water Requirements" illustrate this.

Self-interest has the potential, then, for stimulating change in man's relation with his environment more rapidly than genetic change which is a process occurring over generations and more rapidly than changes in social organization which from experience are known to be very often slow. Self-interest, energized by emotional commitment, had the potential for rapid change *vis-a-vis* the relations people have with their environment. It, too, can be a retardant to change, thus mitigating the quickness of response, and possibly preventing detrimental changes.

I am not suggesting self-interest as a panacea. I am merely identifying that it is an important mechanism in human adaptation. It, along with genetic change and social organization, is one of the many adaptive mechanisms available to man.

Self-interest like genetic change can lead to the detrimental mutants of greed, lust, exploitation of others, narrow vision, uncooperativeness, irrational action, and many of the other commonly identified frailties of man. Self-interest is, then, one feature of human adaptation; it is not necessarily good or bad, but it manifests itself as both. As with emotionalism, what is good and what is bad are relative to the philosophical set of the observer.

This diversifying feature of self-interest is one of its important adaptive attributes. Self-interest maintains populations accepting a variety of evaluative lemmas. The dilemmas of unlimited growth and no growth, man as a manager of the environment and natural management, diversity and similarity of actions and attitudes, centralization and decentralization of authority, elitism and broad participation in decision-making, and generalization and specialization of roles are identified as some of the philosophic questions pertinent to environmental decision-making. Here again the identification of these dilemmas is no panacea. The problem facing Willamette Valley citizens was charting a course between unlimited growth and no growth, diversity and similarity, centralization and decentralization, etc. The quantity of growth, diversity, centralization, etc. which made for suitable adaptation varied from situation to situation, time to time, individual to individual, and group to group.

Environmental decision-makers were faced with the problems of charting a course between a variety of competing extremes regarding human and natural resource dilemmas. The research findings are that privateers, those individuals and groups acting in accordance with their own self-interests, were critical to this process. The privateers organized themselves to change decisions when they perceived the course to be wrongly charted. In doing this they were energized by emotional commitment to support a set of lemmas, the ideas they accepted as true. This, however, establishes the dilemma of mankind, "...choice between conflicting ideologies" (Simpson 1949:320). How does mankind chart the course for choosing between the conflicting ideologies? This case study of environmental decision-making in the Willamette Valley of Oregon suggests that separate groups of privateers, each charting a somewhat different course and each with access to the system for influencing action, helped in charting the way the Willamette Valley citizens evaluated and worked out their adaptation with the environment.

## APPENDIX A

## DATA BASE

Four major kinds of data served as the base for this study--surveys, interviews, record review, and observation. All of these activities were conducted within the physical limits of the Willamette Valley with the major period of data acquisition being from July 1, 1969 to December 31, 1971.

Five surveys provide data on people's attitudes toward population and economic growth, community attractiveness and desirability, environmental problems, organizations responsible for these problems and their solution, and recreation activities. Albany and Lebanon, Oregon were surveyed in September 1969. Identical surveys were used for both communities. The survey instrument was built out of one used in Sweet Home in the summer of 1968. There were 160 respondents in Albany and 142 respondents in Lebanon. Respondents were selected based on a systematic sample of electric customers.

Surveying in the Tualatin Valley and in Woodburn, Oregon was begun in December 1970 and completed in June 1971. In the Tualatin Basin there were 168 respondents drawn primarily from the communities of Hillsboro, Tigard, and Tualatin. For Woodburn there were 123 respondents. In both Tualatin Valley and Woodburn respondents were selected using a random areal sampling technique. The questionnaire from the Albany-Lebanon survey was modified by introducing a new instrument to measure attitudes toward population and economic growth, and community attractiveness. This instrument was designed to allow for greater variability in response. In addition, questions regarding community attractiveness and desirability, environmental problems, and the organizations responsible of these problems and their solution were made open-ended.

Finally, between October 1971 and February 1972 the Albany sample was resurveyed. In this survey a section on recreation activities was added and the organizational sections deleted. In addition, the indicator was used for half the respondents and word categories for the other half. The purpose of this procedure was to gain additional data on the adequacy of the indicator. Surveyors using the indicator reported it seemed to them to work as well or better than the word categories. Other checks of the indicator were also being made among students on the Oregon State University campus.

A second major source of data, interviews, were conducted with key informants in each of the nine Willamette Valley counties. All interviews were open-ended. The interviewer completed a set of field notes for each interview. Our files contain field notes from 174 interviews.

People interviewed were purposively selected based on their knowledge and experience. Those interviewed were approached in their role of technician, teacher, manager, specialist, and decision-maker, rather than as citizen. The interviews were conducted at the site in which the person interviewed carried on his activities. With this procedure the interviewer was able to obtain details in the form of records, maps, and documents, as well as see technical apparatus in operation. This augmented and supplemented the interviewers understanding of the informant's point of view and the topic being discussed.

Third, review of documents and records provided data over time which highlighted technical, economic, social, and attitudinal changes. The records or reports of such public agencies as the Pacific Northwest River Basins Commission, State Water Resources Board, Corps of Engineers, Bureau of Reclamation, Soil Conservation Service, Department of Environmental Quality, State Corporation Commission, State Department of Revenue, and other federal, state, and local agencies were reviewed for data on water management, water use patterns, water using and managing organizations, water laws and administrative procedures, and attitudes.

One of the principal results of this document and record review was a list of 610 water managing public, private, and sodality organizations in the Willamette Valley, the organizations with which they articulated, and their purposes. Another major feature of the record review was analysis of oral and written statements made by organizational representatives at public meetings on water resource utilization projects. Statements of 132 participants at 6 hearings between 1962 and 1971 were analyzed with respect to attitudes about population and economic growth, benefits and costs of water utilization, kind of environmental management, relation of man with nature, resource utilization, and future orientation.

The fourth and most critical category of data was observation of people's actions. Observations were made in several behavioral settings. Two undergraduate research assistants lived for four months each in the Tualatin Valley and in Woodburn. By living in the community they were able to observe meetings, daily operations of community government and sodality organizations, behaviors of officials and citizens as they used, managed, and planned for use of the local water supply and waste water removal systems. They observed how the issues resulting from the management of the local water resource were interrelated with community questions about regionalism, public participation, ethnic relations, community environmental quality, taxes, and individual welfare.

Other graduate and undergraduate research assistants spent lesser periods of time interviewing and observing in the communities of Eugene, McMinnville, Sheridan, and Stayton. Schools in communities were observed on policies and practices of environmental education.

Settings in which many points of view were brought together were also a significant source of data. These settings included the 1971 session of the Oregon Legislature, monthly meetings of the Environmental Quality Commission, monthly meetings of the Oregon Environmental Council,

meetings of the Technical Advisory Committee for a Willamette Valley Environmental Protection and Development Plan, and other meetings and activities considering topics related to water resource utilization in the Willamette Valley. In all observations were recorded on 185 separate settings.

The Willamette Valley is an area of 11,032 square miles in which 1,437,000 people lived in 1970. The data base cannot be construed to be representative of the citizenry of the Valley. Rather the data were gathered to illustrate and enumerate the relevant variables and processes for increasing understanding of the socio-cultural system for water management in the Willamette Valley. The data gathered are only a small piece of the whole.

## APPENDIX B

## SURVEY ADEQUACY

The survey populations for the Sweet Home, Lebanon, Albany (initial and resurvey), Woodburn, and Tualatin Valley, along with the McCall and Louis Harris and Associates surveys were checked against comparable 1970 U. S. Census data (U. S. Department of Commerce 1971a and b, 1972). Five demographic categories were checked. These were age, sex, occupation, education, and home ownership.

The Woodburn and Tualatin Valley surveys were most heavily relied on for the data descriptions in Chapter 3. In both surveys there were no significant differences ( $p < 0.05$ , using a chi-square test) between the census data and the survey population on sex and age. There were significant differences on home ownership, occupation, and education. These differences would be expected based on the nature of the sampling technique. The sampling technique was a random area sample of households. Survey areas were divided equally into blocks and blocks were randomly selected for sampling. The equal area technique would introduce a bias toward home owners. Home ownership is correlated with higher degrees of education. Occupationally both the Woodburn and Tualatin Valley surveys were biased toward larger than expected numbers of housewives. This too can be attributed to the sampling technique used.

The other survey on which heavy reliance was placed was the Louis Harris and Associates survey of Oregon. This survey population in comparison with census data was biased toward blue collar occupations, college graduates, older people, and low income. With the exception of college graduates these biases would be expected from the weighting done by area. In order to obtain representative samples, larger samples, percentage wise, had to be taken from areas of low population density. This was eastern Oregon and coastal areas where there were fewer professionals, lower incomes, and more older people.

Checking the survey populations against census data for the other surveys too revealed significant differences from the census data. Other reasons which explain the lack of congruency between census data and the survey populations are:

1. Different time periods of data collection.
2. Different boundaries to survey areas.
3. Small survey sample sizes.



In addition to checking the representativeness of survey data, checks were made on the possible sources of error. The following types of potential errors were identified:

1. Respondent did not verbalize his intended feelings or meaning.
2. Respondent misunderstood the question being asked.
3. Respondent's statement not accurately understood or recorded by the interviewer.
4. Respondent's recorded response not accurately interpreted by coder.
5. Respondent's response not accurately coded by coder.
6. Error in key punching coded responses.
7. Error in program for analysis.
8. Computer error in reading coded response.
9. Analyst error in reading computer output.
10. Analyst error in interpreting computer output.
11. Computer output not accurately described in report.
12. Error in printing published description of data.

For the error categories 1-3 no systematic check was made. The congruency of responses both across surveys and across different interviewers suggest that these errors were not large. An error analysis was run on error categories 4-6. The percent error was found to be 1.8 percent. For error categories 7-12 careful handling and checking of results were the procedures used to minimize these kinds of errors.

## REFERENCES

- Balch, Olin  
1971 An analysis of the Oregon Environmental Council. Portland. Oregon Environmental Council.
- Benedict, Burton  
1970 Population regulation in primitive societies. In Population control. Anthony Allison. Baltimore, Penquin Books, Inc.
- Bishop, A. Bruce  
1970 Public participation in water resources planning. Alexandria, U. S. Army Engineer Institute for Water Resources.
- Borton, Thomas E., Katharine P. Warner, and J. Williams Wenrick  
1970 The Susquehanna communication participation study. Alexandria, U. S. Army Engineer Institute for Water Resources.
- Boulding, Kenneth E.  
1966 The economics of the coming spaceship Earth. In Environmental quality in a growing economy. H. Jarrett, ed. Baltimore, Johns Hopkins Press.
- Bracken, Darcia Daines  
1971 Social goals identification: a survey approach. Logan, Utah State University.
- Brokensha, David and Thayer Scudder  
1968 Resettlement. In Dams in Africa. Neville Rubin and William M. Warren eds. New York, Augustus M. Kelley Publishers.
- Columbian Research Institute  
1969 Fiscal implications of government unification. Portland.
- Commager, Henry S.  
1949 Selections from the Federalist. New York, Appleton-Century-Crofts.
- Eiselein, Eddie Bill  
1969 Water for Weststate, U. S. A.: the association in the politics of water resource development. Tucson, unpublished Ph.D. dissertation, Department of Anthropology, University of Arizona.
- Fisher, Sir Ronald Aylmer and Frank Yates  
1963 Statistical tables for biological, agricultural, and medical research. New York, Hafner. 6th ed. rev.

- Fulton, Jerome K.  
1971 Development and evaluation of citizen participation techniques for inland lake and shoreland management. Ann Arbor, Huron River Watershed Council.
- Gearhart, Jane A.  
1969 Analysis of special district laws of Oregon. Salem, Legislative Counsel Office.
- Gleason, George W.  
1972 The return of a river, the Willamette River, Oregon. Corvallis, Water Resources Research Institute, Oregon State University.
- Harris, Louis and Associates, Inc.  
1970 The public's view of environmental problems in the state of Oregon. Study No. 1990, for Pacific Northwest Bell Telephone Company.
- Hart, Ronald A.  
1971 Political adaptation to environmental change. Unpublished Bachelor of Arts Thesis, Department of Anthropology, Oregon State University.
- Herfindahl, O. C. and Allen V. Kneese  
1965 Quality of the environment. Baltimore, The Johns Hopkins Press.
- Kendall, Maurice G. and Alan Stuart  
1967 The advanced theory of statistics, in three volumes. New York, Hafner Publishing Company.
- League of Oregon Cities  
1971 Financing city sewerage facilities in Oregon. Report No. 6. Salem.
- League of Women Voters, Beaverton, Milwaukie, Oswego, Portland  
1960 A tale of three counties: one metropolitan community.
- Leonard, R. C.  
1966 Rules for judging empirical interpretations of concepts and propositions of a formalized theoretical system. Discussion draft. Tucson, University of Arizona.
- Menzel, Herbert  
1950 Comment on Robinson's "Ecological correlations and the behavior of individuals." American Sociological Review 15:674.
- Misham, Ezra J.  
1967 The costs of economic growth. New York, Praeger.

## Moore, Ben Adams, III

- 1971 Problems in the inclusion of individual values and attitudes in water resource models and stereotypes. Unpublished Bachelor of Arts Honors Thesis, Department of Anthropology, Oregon State University.

## Oregon Conservation Commission

- 1910 Report of the Oregon Conservation Commission to the Governor. Portland.

## Oregon. Department of Environmental Quality

- 1972 Plan for implementation and enforcement of water quality and waste treatment standards. Portland.

1970 Water quality control in Oregon. Portland.

## Oregon. Department of Revenue

- 1971 Summary of levies and assessments and analysis of city and county property tax levies for 1970-71 fiscal year. Salem.

## Oregon Environmental Council

- 1971 To live with the earth. Portland.

## Oregon. Governor's Inter-governmental Coordination Committee

- 1968 Report. Salem.

## Oregon. Legislature. Interim Committee on Local Government

- 1969 Local government in Oregon. Salem.

1969 Report. Salem.

1963 Report. Salem.

## Oregon. State Highway Division

- 1971 Scenic waterway hearing. Salem.

## Oregon. State Highway Division. Parks and Recreation Section

- 1972 Scenic waterway study, South Santiam River. Salem.

## Oregon. State Planning Board

- 1938 Oregon looks ahead. Portland.

1937 Proceedings of the Oregon planning conference. Portland.

1936 First biennial report. Portland.

1935 Accomplishments, progress, and proposed future programs. Portland.

## Oregon. State Sanitary Authority

- 1964 Water quality and waste treatment needs for the Willamette River. Portland.

- Oregon. Water Resource Board  
1972 Newsletter. 3:1.
- Oregon. Willamette River Basin Commission  
1956 Biennial Report, No. 6. Salem.
- Patterson, Langford and Stewart Architecture-Planning and Urban Design  
1971 The Willamette Valley environmental protection and development plan. Medford.
- Portland Metropolitan Area Local Government Boundary Commission  
1971 Report. Portland.
- Portland Metropolitan Study Commission  
1970 Report. Portland.
- 1969 Report and recommendations. Portland.
- Portland State University. Urban Studies Center  
1969 A review of city/county/special district functional relationships in the Portland urban area. Portland.
- Portland State University. Research Bureau  
1965 Voter participation in special districts.
- Reagan, Micheal J.  
1972 Field notes. Department of Anthropology, Oregon State University.
- Robinson, W. S.  
1950 Ecological correlations and the behavior of individuals. American Sociological Review 15:351-57.
- Rogers, Rolf E.  
1969 Max Weber's ideal type theory. New York, Philosophical Library, Inc.
- Shearer, Marvin N. and Arthur S. King  
1965 Trends and anticipated changes in water-use practices for irrigation in the Willamette Valley. Corvallis, Cooperative Extension Service Special Report 197, Oregon State University.
- Simms, Denton Harper  
1970 The Soil Conservation Service. New York, Praeger.
- Simpson, George Gaylord  
1949 The meaning of evolution, a study of the history of life and of its significance for man. New Haven, Yale University Press.
- Smith, Courtland L.  
1972 The Salt River Project: cultural adaptation to an urbanizing community. Tucson, University of Arizona Press.

- Smith, Courtland L. and Thomas C. Hogg
- 1971a Benefits and beneficiaries, contrasting cultural and economic distinctions. *Water Resources Research* 7:254-263.
  - 1971b Cultural aspects of water resource development--past, present, and future. *Water Resources Bulletin* 7:652-660.
  - 1971c Economic development: panacea or perplexity for rural areas. *Rural Sociology* 36:173-186.
- Stagner, R. and Charles E. Osgood
- 1946 Impact of war on a nationalistic frame of reference: I. Changes in general approval and qualitative patterning of certain stereotypes. *Journal Social Psychology* 24:187-215.
- Tossett, Otis
- 1961 Land, water and people. St. Paul, Soil Conservation Districts Foundation, Inc.
- Udall, Stewart L.
- 1963 The quiet crisis. New York, Holt, Rinehart and Winston, Inc.
- U. S. Army Corps of Engineers. North Pacific Division
- 1971 Water resource development in Oregon. Portland.
- U. S. Army Engineer District. Portland
- 1971 Transcript of public hearing held at Corvallis, Oregon, 2 June 1971.
  - 1970 Transcript of public hearing held at Halsey, Oregon, 27 January 1970.
  - 1969 Transcript of public hearing on site selection held at Sweet Home, Oregon, 18 September 1969.
  - 1963a Willamette Basin Review, transcript of public hearings Eugene, McMinnville, Albany, and Oregon City. Corps of Engineers.
  - 1963b Willamette Basin Review, appendix to transcript of public hearings Eugene, McMinnville, Albany, and Oregon City. Corps of Engineers.
  - 1940 Willamette Valley Project, Oregon.
- U. S. Congress. House
- 1964 Tualatin project, Oregon. House Document No. 295, 88th Congress, 2nd Session. Washington, G. P. O.
  - 1950 Columbia River and tributaries, Northwestern United States, Appendix J, Willamette River Basin. Washington, G. P. O.

## U. S. Congress. House (cont.)

- 1938 Willamette River and tributaries, Oregon. House Document No. 544, 75th Congress, 3rd Session. Washington, G. P. O.
- 1932 Willamette River, Oregon. Letter from the Secretary of War transmitting report from the Chief of Engineers on Willamette River, Oreg., covering navigation, flood control, power development, and irrigation. House Document No. 263, 72nd Congress, 1st Session. Washington, U. S. Government Printing Office.

## U. S. Department of Agriculture. Soil Conservation Service

- 1971 A framework plan--soil and water conservation for a better America. Washington.

## U. S. Department of Commerce

- 1972 General social and economic characteristics, Oregon. 1970 census of population, PC(1)-C39 Oreg. Washington, G. P. O.
- 1971a General housing characteristics, Oregon. 1970 census of housing, HC(1)-A39 Oreg. Washington, G. P. O.
- 1971b General population characteristics, Oregon. 1970 census of population, PC(1)-B39 Oreg. Washington, G. P. O.

## U. S. Department of the Interior. Federal Water Pollution Control Administration

- 1967 Willamette River Basin water quality control and management. Portland.

## Waggoner, Don

- 1972 Oregon's "bottle bill." Portland, Oregon Environmental Council.

## Western Environmental Trade Association

- 1971 Remarks by Edward J. Whelan. Salishan Lodge.

## Whistler, John T. and John H. Lewis

- 1916 Rogue River Valley project and Willamette River Valley investigations, irrigation and drainage. U. S. Reclamation Service in cooperation with State of Oregon.

## Willamette Basin Task Force

- 1969 The Willamette Basin comprehensive study of water and related land resources. Vancouver, Pacific Northwest River Basins Commission, with appendices.