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FINAL REPORT
ANALYSIS AND EVALUATION

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ENVIRONMENTAL
IMPACT
ASSESSMENT
PROJECT

FINAL REPORT

Analysis and Evaluation

for the research and demonstration project entitled
**ENVIRONMENTAL IMPACT ASSESSMENT: A FRAMEWORK
FOR LOCAL PARTICIPATION AND
DECISION MAKING**

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CONTENTS

ACKNOWLEDGEMENTS	ii
I. INTRODUCTION	1
II. SUMMARY OF PROCESS AND TOOLS	6
Environmental Impact Assessment Form and Manual	7
Environmental Assessment Resource Handbook	9
Criteria for Impact Assessment	10
A Survey of Geographic and Resource Information Systems	10
An Educational Program on NEPA and Impact Statements	11
Reports on the Three Demonstration Projects	11
III. METHODOLOGY	12
IV. DEMONSTRATION PROJECTS	14
Siuslaw National Forest Timber Management Plan	17
The Corvallis Bypass	18
The Thomas Creek Watershed Project	21
Some Notes on Process Mechanics	23
V. EVALUATION	28
Participating Agency Evaluation	28
U. S. Environmental Protection Agency	33
In-House Evaluation	34
VI. CONCLUSIONS AND SCOPE OF FUTURE WORK NEEDED	48
FOOTNOTES	50
APPENDIX - LIST OF PROJECT PUBLICATIONS	52

I: INTRODUCTION

The National Environmental Policy Act of 1969¹ (NEPA) requires that environmental considerations be brought into the decision-making process for any federal agency action or proposal funded by federal monies. The environmental impact statement, as required under section 102 (2) (c) of that act, has been the main instrument to accomplish the act's purpose.

The far-reaching significance of NEPA is recognized by agency officials, legislative bodies, the courts, and by the general public. NEPA has created an environmental awareness among federal agency decision-makers by incorporating legal requirements for environmental review into the system. It also makes agency program and project planning subject to public scrutiny.²

However, the act has also received serious criticism, from both its supporters and its detractors. Its severest critics charge that NEPA is a tool of obstructionists used to cause unnecessary delays and costs to projects that are in the public interest. In times of economic inflation, unemployment, and potential energy shortages, they contend we cannot afford the paper-shuffling exercise of environmental impact statements.³

NEPA's supportive critics would agree that many impact statements are not very useful to decision-making. However, these critics would place the responsibility for this situation upon the agencies who are responsible for the statements. In some instances, federal agencies have been accused of preparing self-serving statements, which may appear to be procedurally

correct, but are lacking in substantive analysis of environmental impact.⁴

The review process for environmental impact statements is another problem area. In many cases, rigorous review of statements by other agencies is hindered by lack of budget and expertise for this activity.⁵ It is often prohibitively expensive and time-consuming for one agency to become technically familiar with the data and conclusions presented in an impact statement by another agency.

An additional problem is the lack of a systematic, consistent mechanism for identifying the key problems and issues to be researched in the impact statement process. Often an inadequacy is not apparent until the completed statement is challenged. Local individuals and organizations could provide valuable perceptions and knowledge on the potential impact of a project on the community, if given the opportunity.

Certain proposals have been put forth to address the problem areas described.⁶ These proposals range from changing the NEPA legislation itself to administrative changes, such as having the Council on Environmental Quality issue more substantive guidelines. Some would like programmatic impact statements on overall programs of federal agencies (e.g., HUD's Block Grant Program, EPA's 208 Area-wide Wastewater Planning Program) to reduce the need for impact statements on each local action. Still others propose that a super-agency is needed to approve or disapprove proposed actions based on their environmental impact.

Project Objectives

The basic objectives of this project can be stated as follows:

1. To test a methodology for improving the quality of impact statement content;
2. To provide opportunity for local participation in project design

and decision making;

3. To provide more efficient procedures for complying with impact statement laws, thereby shortening the time now required for impact statement preparation, review, and final validation;

4. To provide an educational mechanism for citizens and agencies related to a proposed activity.

Project Design

The thesis tested in the methodology was that, under existing conditions, a valuable environmental planning and impact review process can be built in at the local level. This process would not require a new administrative bureaucracy or a new code of regulations. It is basically educational in nature, and provides for agency and public review of a proposed activity before the draft statement is begun. The review is coordinated by an independent environmental impact specialist who organizes and works with an advisory group. The advisory group represents local political interests, local planning commissions, various interest groups, and specialized expertise in public agencies.

The end product of this preliminary assessment is a report to the initiating agency outlining the key issues, problems, and research needs that should be addressed in the impact statement. Assuming that this preliminary assessment is properly organized and conducted, the initiating agency then has some assurance it will be investigating the significant problem areas. The agency not only receives guidance on what to study and in what degree of detail, but also participates in an educational program with citizens, special interest groups, and other agencies affected by its proposed action. The result should be a more fully adequate statement, better project design, and a reduction in risk of prolonged legal challenges.

The key elements of the preliminary assessment process are: an independent environmental impact specialist, an ad hoc advisory group, a systematic approach to identifying potential impacts, and a report to the initiating agency outlining the major issues, problems, and research needs that should be examined in the draft environmental impact statement. (See Figure 1)

The concept of a preliminary assessment to identify potential impact areas is supported by recommendations contained in the Environmental Assessment Notebook Series, prepared for the U.S. Department of Transportation⁷ and in a critical review of NEPA prepared as a master's thesis.⁸ An important difference, though, in the concept used in these two reports and in the methodology tested in this project is the role of the independent impact specialist. Both of the reports cited assume the preliminary assessment will be conducted by the initiating agency, while this project utilizes an independent, non-partisan impact specialist.

Preliminary assessment has been used by many federal agencies to determine whether a statement is or is not required and, in fact, the procedure is recommended by the Council on Environmental Quality.⁹ However, the application of preliminary assessment for this purpose is quite different than its use as an "early warning" process for an intended draft impact statement.

The preliminary environmental assessment methodology was tested in three demonstration projects. The remainder of this report describes in detail the elements of the process and evaluates its overall effectiveness in accomplishing project objectives.

PRELIMINARY ENVIRONMENTAL ASSESSMENT PROCESS

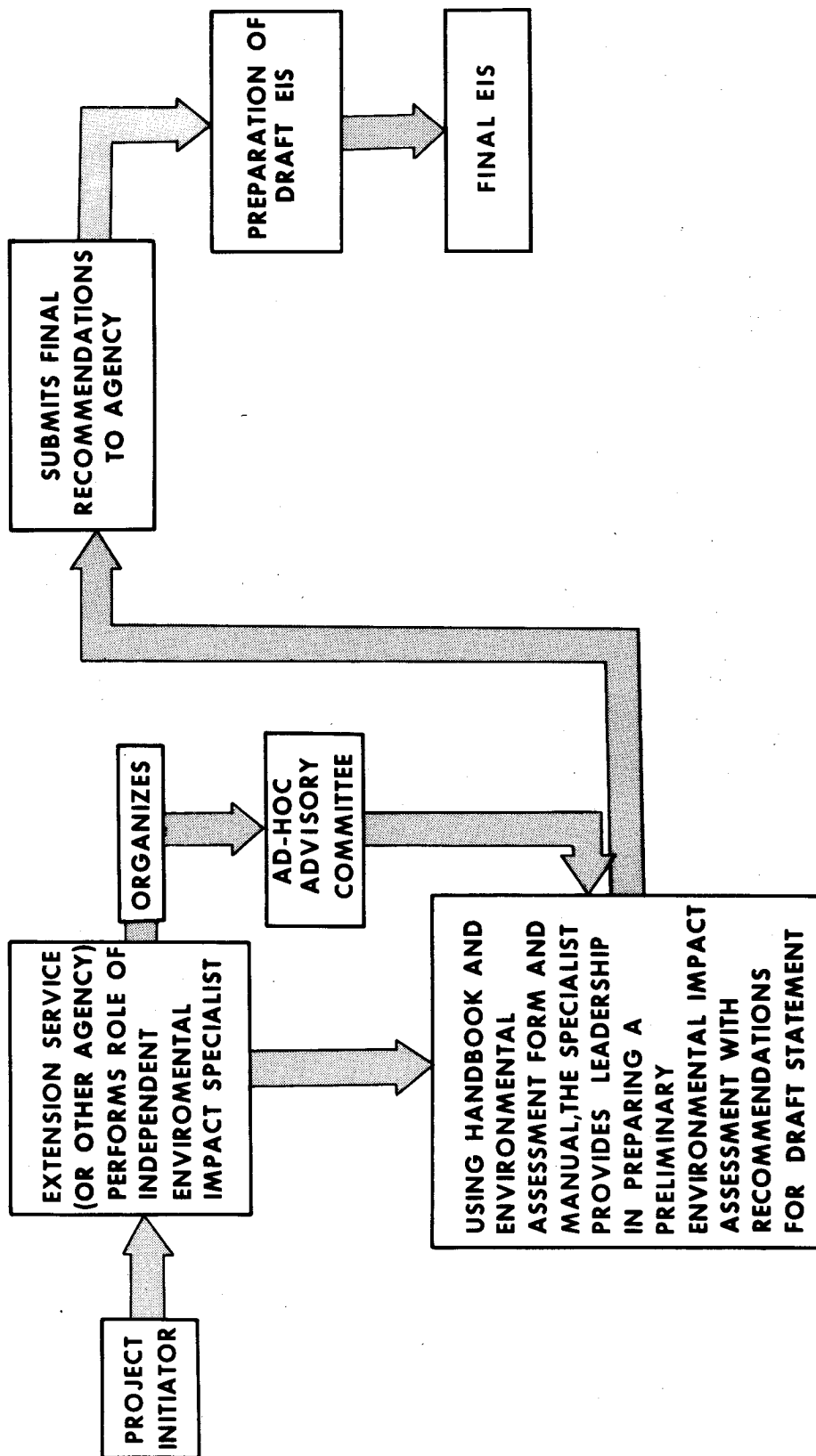


Figure 1

II: SUMMARY OF PROCESS AND TOOLS

The preliminary assessment process, as described in the previous section, includes an independent impact specialist and an ad hoc advisory group. The advisory group, with its representation of local officials, citizens, and various interest groups, provides insight into specific local conditions and concerns.

In working with the advisory group, the independent impact specialist utilizes tools developed in the project to provide a systematic approach for identifying potential impacts to be investigated in the draft environmental impact statement. The tools include an assessment form and manual and a resource handbook.

Conceptually, the tools are organized around a three-point perspective. (See Figure 2) This three-point perspective enables the advisory group and the impact specialist to consider potential impacts that would otherwise be difficult to ascertain. The three-point perspective includes:

1. The legal framework, which includes laws, regulations, court cases, policies, standards, property rights, and other legal criteria established by federal, state, or local levels of government.
2. The impact receptors, as outlined in the Environmental Assessment Form and Manual. The impact receptors are those natural, social, or economic conditions that may be impacted upon. The Environmental Assessment Form and Manual outline the impact receptors under 13 categories, including such topics as water quality, noise, community structure, and visual resources.

3. The impact generators, which are the specific activities and the kinds of impacts expected from construction and operation, or program implementation. The Environmental Assessment Resource Handbook contains impact checklists for 18 types of activities that usually require environmental impact statements.

Environmental Impact Assessment Form and Manual

The Environmental Assessment Form (EAF) and its accompanying Manual are designed for use by agency personnel, consultants, Extension Service personnel, local governments, and citizens in conducting a preliminary assessment for an environmental impact statement (EIS). The premise for preliminary assessment is that the content of the EIS can be improved by providing for the input of specialized experts, interest groups, and local concerns early in the EIS process in order to identify the critical issues, problems, and concerns that need to be investigated in the EIS.

The Assessment Form and Manual are organized to address the issues that are required in an EIS, with special subsections and quantitative and qualitative questions designed to assess potential impacts. The Form and Manual designate 13 topic areas to represent the range of potential impacts that might be associated with a proposed action, from wildlife habitat to economic impacts.

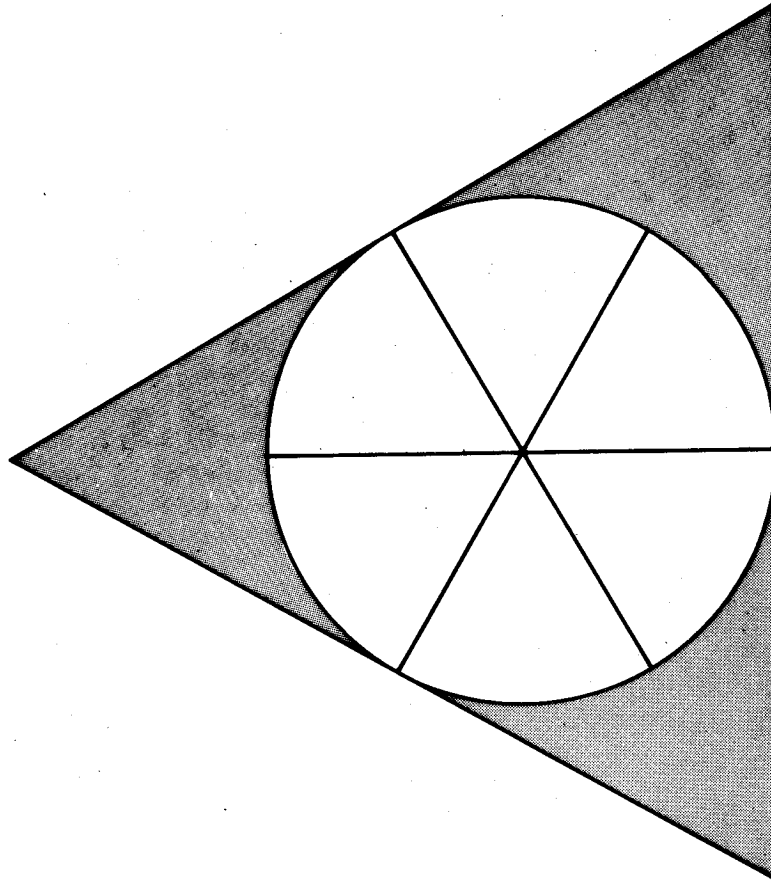
The concluding section of the assessment form aggregates the impacts listed under the 13 topics, allowing the user to establish priorities among the potential impacts. This final section follows the CEQ Guidelines and includes project alternatives, unavoidable impacts, short term uses and long term impacts, and irreversibility of actions.

The Manual explains section-by-section and question-by-question how to complete the form. In addition, definitions of terms and lists of information sources are included in the Manual for each section.

3 POINT PERSPECTIVE

“putting it all together”

1.LEGAL FRAMEWORK



2.IMPACT
RECEPTORS

3.IMPACT
GENERATORS

Figure 2

Environmental Assessment Resource Handbook

The Handbook contains a compilation of information for identifying potential impacts of a proposed action. It is organized into five sections, covering the following subject areas:

Section I lists and briefly describes basic legal requirements and guidelines, key modifying executive orders, Congressional acts, memoranda, and judicial interpretations of NEPA.

Section II summarizes the procedures and guidelines used internally by the major federal agencies and Oregon state agencies that prepare impact statements. The information is organized under these headings for each agency: (1) definitions used to define major actions significantly affecting the environment (2) guidelines regarding agency requirements for impact statement preparation (3) citations for documents used by the agency for preparation and review of impact statements.

Section III abstracts policies and standards used by selected federal and state agencies in reviewing impact statements. The policies and standards are organized under the 13 topics used in the Environmental Assessment Form and Manual. Relating these policies and standards to the potential impacts of a proposed action is one way that the impact specialist and advisory group can determine the relative significance of a particular kind of impact.

Section IV contains a listing of data and expertise sources. The list includes federal agencies, Oregon state agencies, and other sources within the State of Oregon.

Section V provides a checklist of potential impacts that a given action may generate. Included are 18 activities, organized under the 6

generic categories of transportation, land management activities, water resource development, power generation/resource extraction, waste treatment, and land development. Potential impacts of each activity are listed under each of the 13 topics used in the Environmental Assessment Form and Manual. This organization should facilitate use of the checklists with the impact receptors in the assessment form.

Criteria for Impact Assessment

The criteria study is under development and is scheduled for completion by October, 1977. It will be organized under the thirteen topical headings of the EAF with a range of criteria for each heading. The criteria are to be in the form of suggestions for public policies and standards that could be adopted by local, regional, or state governments. In Oregon, the criteria are intended to be complementary with recently adopted state-wide planning goals and guidelines, siting criteria for nuclear and thermal energy power plants, as well as other state and federal agency regulations in Oregon for environmental protection and community development.

Other Materials Developed by the Project

In addition to the preliminary assessment process and supporting tools developed by the impact assessment project, several other research efforts were conducted. These investigations included a survey of resource information systems, preparation of educational materials, and reports of demonstration projects that used the preliminary assessment process. Below is a short description of these additional reports and materials.

A Survey of Geographic and Resource Information Systems. This report is a comparative description of a number of computerized systems using

geographic data bases. The systems selected for review are those which have been completed and tested and have applicability for environmental impact assessment data needs.

An educational program on NEPA and impact statements. The purpose of this program is to make available, through the Extension Service, teaching materials on NEPA and the impact statement process. Components of this educational package include: (1) a slide-tape program and accompanying script entitled The Role of Impact Statements in Public Decisions, (2) a leader's guide on the environmental impact statement process, and (3) a question-and-answer handout for educational programs.

The slide program is designed to provide the audience with a basic introduction to the history, administrative framework, and functioning of the EIS process. Included in the program is a hypothetical case study, which allows the audience to review the types of impacts addressed in an EIS.

The leader's guide provides Extension personnel or other users with background information on the National Environmental Policy Act and the impact statement process. This guide was designed to clarify the major points of the legislation and enable the facilitator to lead discussions or answer questions about NEPA. An annotated bibliography is included to provide additional sources of information.

Demonstration Project Reports. The contents of these three reports are discussed in Sections III and IV of this Final Report. Basically, the demonstration project reports outline recommendations to the initiating agency for kinds of impacts to be investigated in the draft environmental impact statement. The three demonstration projects used in this study were a Timber Management Plan (U.S. Forest Service), a highway bypass (Oregon Department of Transportation), and a small watershed impoundment (U.S. Soil Conservation Service). All of these projects were located in Oregon.

III: METHODOLOGY

The preliminary environmental assessment process is a systematic procedure to identify the potential impacts that need to be investigated in the draft EIS. Its purpose is to "red-flag" the kinds of impacts for which data gathering and analysis need to be done and to indicate the degree of detail needed for these impact assessment tasks. This preliminary process should be initiated with adequate lead-time before the preparation of the draft environmental impact statement so that the recommendations can be incorporated into the work program for the EIS. Simply stated, the steps of the process are as follows:

1. The agency initiating the action contacts the Extension Service or other agency or consulting firm that will perform the role of independent environmental impact specialist.
2. Using the Environmental Assessment Resource Handbook, the independent impact specialist reviews the proposed action with the initiating agency and identifies the federal and state agency requirements, policies, standards, permits, and other criteria that relate to the proposed action.
3. An ad hoc advisory group is organized by the independent impact specialist. The advisory group should be composed of local government representatives, community leaders, representatives of various interest groups, and appropriate specialized experts from federal and state agencies. The task of this group is to review the proposed action, consider the available factual information,

and identify the potential impacts of the alternatives. The group does not have to evaluate the impacts, since they will not have the data base to do this. Its task is to identify the potential impact areas. The analysis and evaluation is done later in the draft environmental impact statement process.

The Environmental Impact Assessment Form and Manual are used to provide a structure and focus to the deliberations of the advisory group. The Handbook, along with other materials, is used as a resource document. The Handbook is keyed to the Assessment Form to facilitate its use in this way.

The independent impact specialist organizes the meeting schedule and agenda, chairs the sessions, and coordinates the advisory group with the initiating agency. The initiating agency, it is assumed, will be an active participant in the process on a voluntary basis.

4. The advisory group prepares one complete assessment form for each of the project alternatives. The impact specialist then analyzes the proposed action by utilizing the three point filter (legal factors, impact receptors, impact generators - See SUMMARY OF PROCESS AND TOOLS) to assure that significant issues and impacts have not been overlooked. A report is prepared by the independent impact specialist outlining the potential impact areas, suggestions for design modifications, other alternatives, and other concerns uncovered in the preliminary assessment process.

5. At this point, an open forum could be held to provide an opportunity for all interested citizens to express their viewpoints on the proposed action. The report is modified as necessary, after the open forum, and submitted to the initiating agency. The initiating agency uses the report as a guide in preparing the work program for the draft EIS.

IV: DEMONSTRATION PROJECTS

After initial development of the tools for the Environmental Impact Assessment Project, considerable time was spent in identifying actual demonstration projects to test both the tools and the process. Criteria used in selecting demonstration projects included: (1) a range in project size or geographical extent, (2) some variation in location of the test projects within the constraints of the State of Oregon, (3) some degree of controversy associated with the project/activity, (4) a previous agency commitment to prepare an EIS for the proposed action, and (5) compatible meshing of timing factors; i.e., the process had to fit into the agency's time schedule of work for the particular project or activity as well as meet our project time constraints to be useful for evaluation of the demonstration projects. Generally, timing was the most difficult criterion to accommodate.

Utilizing these criteria, and following extended contacts with agencies preparing EIS's, the following demonstration projects were selected:

1. The Siuslaw National Forest Timber Management Plan (with USDA Forest Service)
2. The Corvallis-Bypass (with City of Corvallis, Oregon Department of Transportation, and Federal Highway Administration)
3. The Thomas Creek Watershed Project (with USDA Soil Conservation Service, Oregon Department of Water Resources, and Lakeview-Thomas Creek

Water Control District).

A locator map for the demonstration projects is given in Figure 3. Short descriptions of each of these demonstration projects follow. The descriptions include a brief overview of the geographic area involved, the nature of the proposed project or activity, and the mechanics of bringing together the respective ad hoc groups.

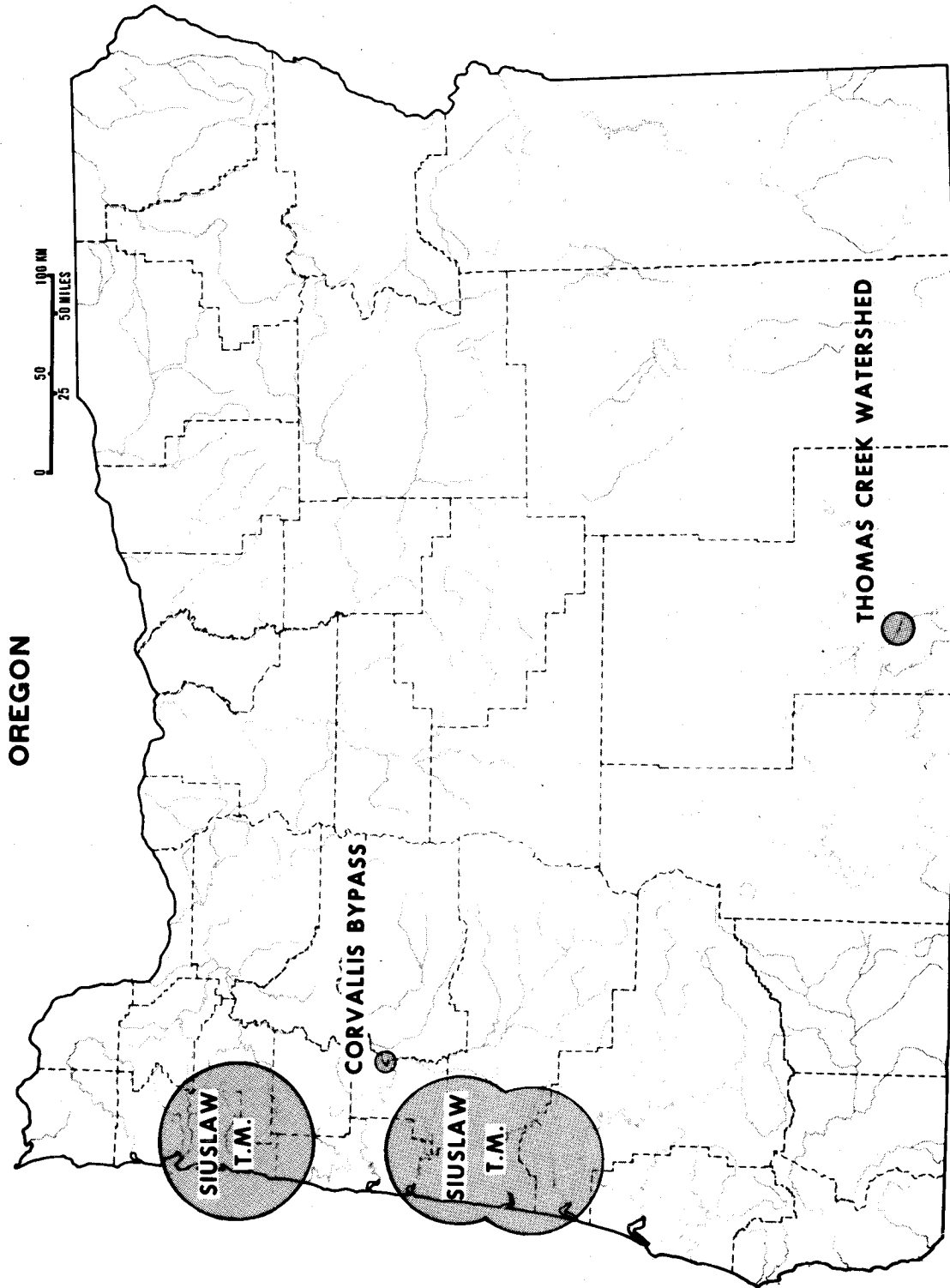


Figure 3 Study Area Locations

The Siuslaw National Forest Timber Management Plan

The Siuslaw National Forest is located in the coastal mountain range in western Oregon, which lies between the Willamette Valley and the Pacific Ocean. It contains 623,784 acres of generally forested steep slopes dominated by Douglas-fir, Western hemlock, Sitka spruce, and other coniferous and hardwood species. The Siuslaw is unusual in that it is the only National Forest in the "lower 48" with an appreciable amount of ocean shoreline. It is also physically separated into two sections. The northern portion of the Forest lies in parts of Lincoln, Tillamook, Polk, and Yamhill counties. The southern and larger section cuts across parts of Lincoln, Benton, Lane, and Douglas counties, and a small section of the dunes area in Coos County.

The project at hand was the environmental impact statement for the Timber Management Plan for the majority of the Siuslaw National Forest. The overall purpose of the 10-year timber management plan is to provide the guidance for the orderly and sustained management of the timber resource on the Forest. It establishes allowable harvest levels for the plan period. It provides overall direction concerning silvicultural cutting practices and establishes management directions for coordinating timber management activities with other resource uses and values.

In accordance with the project methodology, an ad hoc advisory group was formed, which included individuals representing environmental interests, timber industry interests, local officials and planners, academic interests, and state and federal agencies. The group's goal was to identify, discuss, and bring into focus environmental, social, and economic issues that were significant to the Environmental Impact Statement preparation for the

Siuslaw National Forest Timber Management Plan.

It should be noted that the Forest Service did have a standing advisory committee for the Siuslaw National Forest. We utilized the membership of this standing committee for our ad hoc advisory group and added other interest groups, including environmental organizations and local planners, to broaden the composition.

The ad hoc advisory group members attended at least eight meetings, one every 2 weeks. During these meetings the group discussed the range of potential environmental impacts which could result from timber management plan alternatives.

The product of these meetings was a set of recommendations regarding potential issues that should be resolved or addressed in the draft EIS. These recommendations, as well as technical back up material, are contained in the final report on the demonstration project.¹⁰

The Corvallis Bypass

The Corvallis Bypass project was a highway reorientation plan proposed by the Oregon Department of Transportation. Presently traffic utilizing Route 99W, Route 20, and Route 34 passes through the Central Business District (CBD) of Corvallis. The traffic related problems created by the current situation have caused the local business community and city government to urge relocation of the highway out of the business district.

The project's purpose was to reroute non-essential traffic (i.e. those trips with a non-CBD destination or origin) away from the city center. The project consisted of 11 alternative highway reorientation plans within two corridors. (See Figures 3 & 4) These corridors were situated on the east and west banks of the Willamette River, which forms the east boundary of Corvallis. The 11 alternatives represent a compilation of proposals

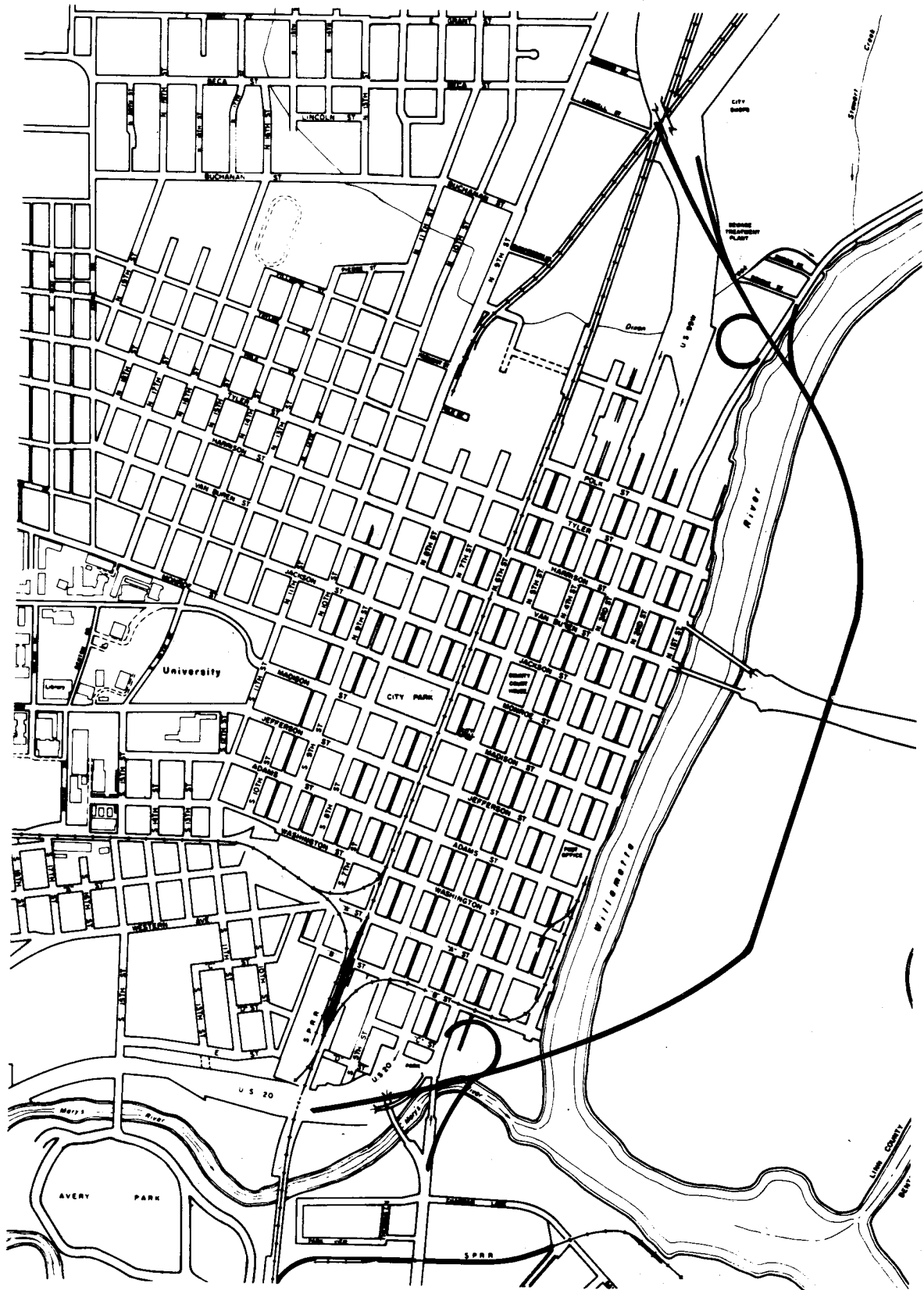


Figure 4 BYPASS ALTERNATIVE

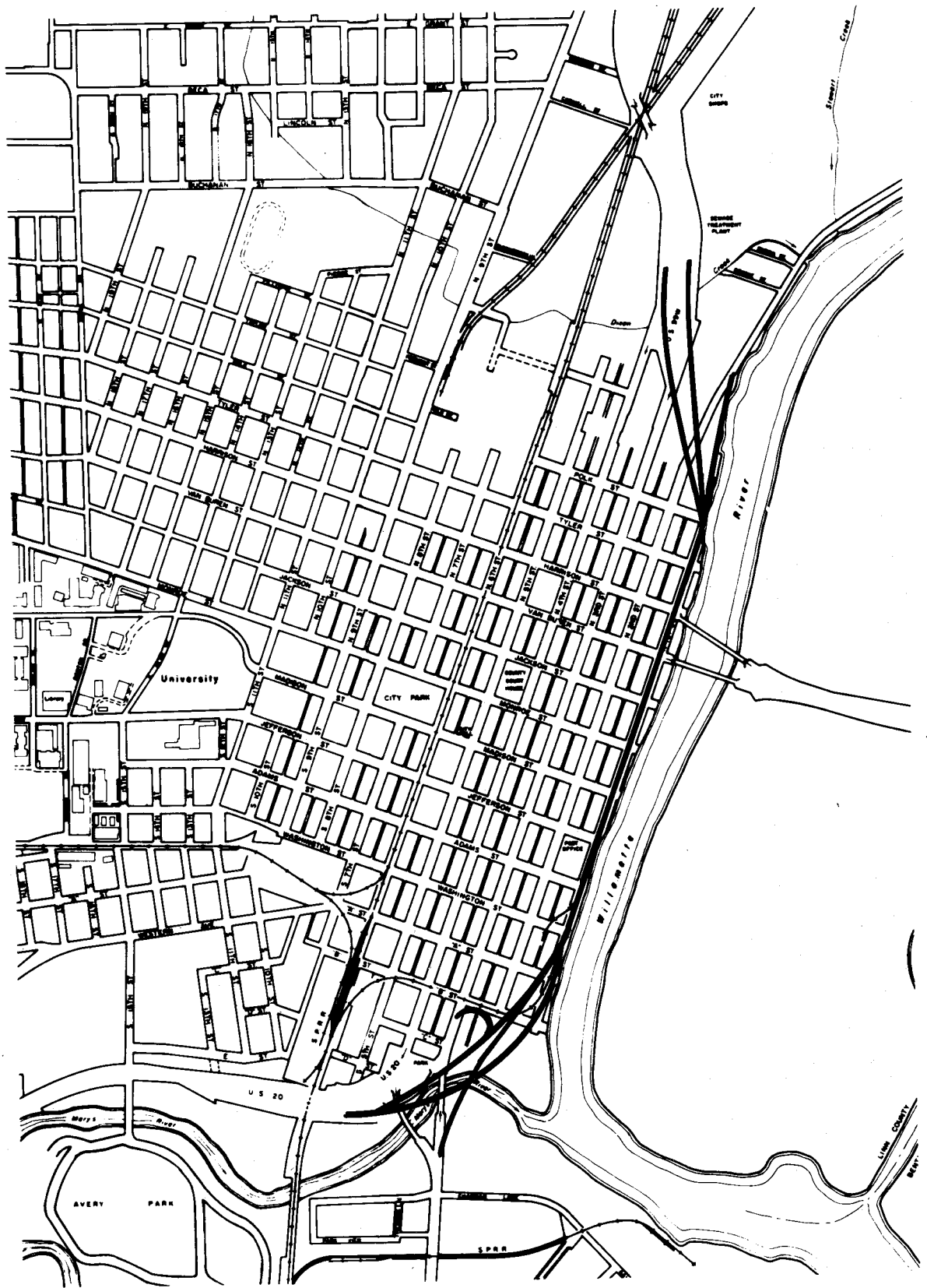


Figure 5 BYPASS ALTERNATIVE

prepared over the past 30 years by concerned local officials.

The east bank project alternatives would include one or two bridges across the Willamette River and a raised fill embankment bypassing the CBD. The west bank alternatives include a roadway running parallel to the river with various at grade, elevated, and depressed configurations.

A Corvallis Bypass ad hoc group was formed by the Environmental Impact Specialist. This group included local individuals representing environmental interests, business oriented representatives, people generally active in planning and community affairs, local officials, planners and other persons with technical expertise. The group attended at least eight meetings scheduled at 2-week intervals. During these meetings the group's goal was to surface and discuss potential impacts of the various transportation alternatives and partial alternatives.

The results of the group's recommendations as well as technical back-up information are contained in the demonstration project final report.¹¹

The Thomas Creek Watershed Project

The Thomas Creek Watershed Project is a proposed water impoundment and diversion project in Lake County, Oregon. The proposed project (See Figure 5) is sponsored by the Lakeview-Thomas Creek Water Control District, Lake County, the City of Lakeview and the Lakeview Soil and Water Conservation District.

Objectives of the proposed project are to provide flood protection for the agricultural lands, full season irrigation water supply for about agriculture, and stored water for increased water-based recreational opportunities. The proposed project would consist of Cox Creek Reservoir, Bauers Creek diversion and canal, Cox Flat Reservoir and associated recreational facilities.

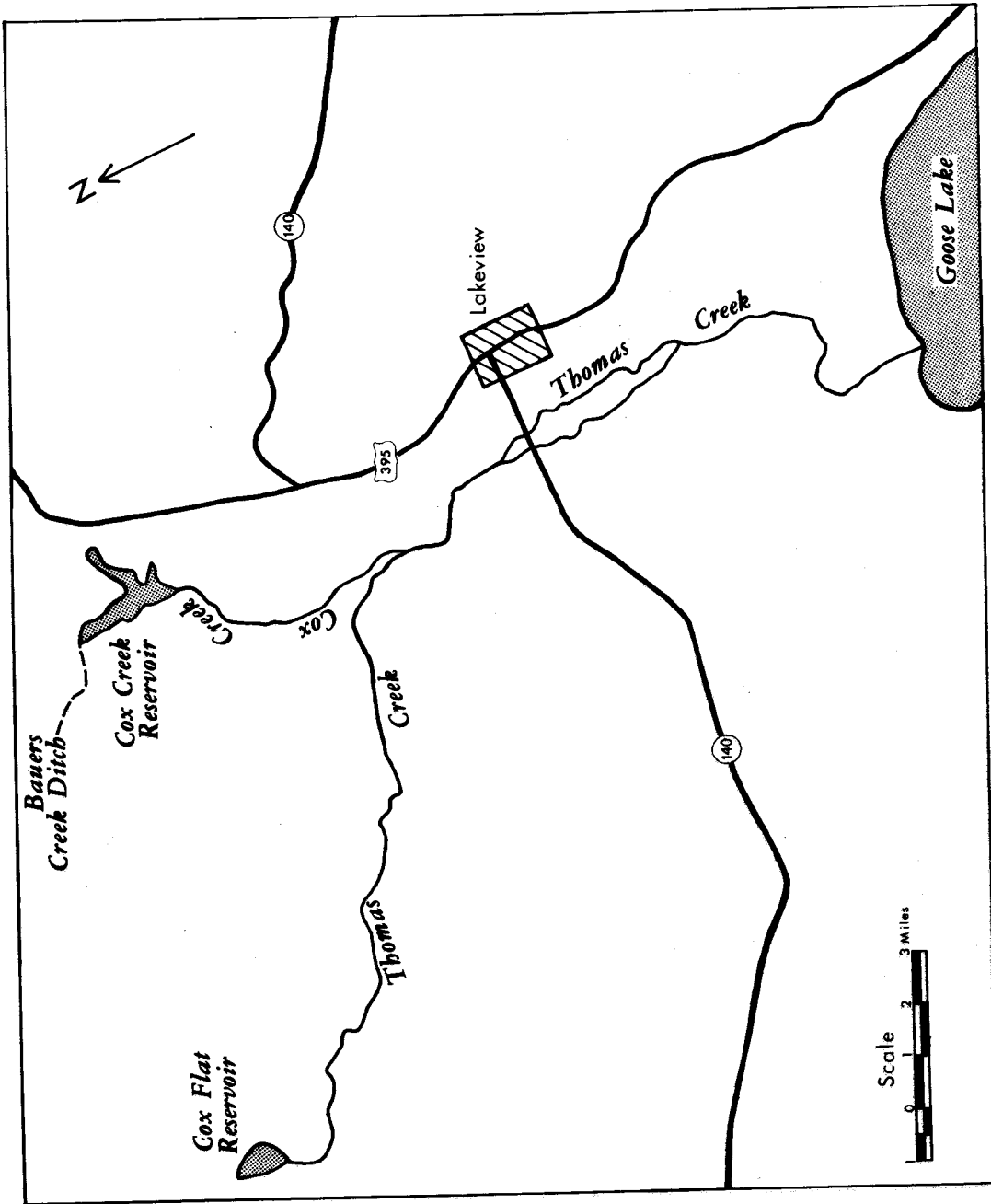


Figure 6 THOMAS CREEK PROJECT MAP

The proposed reservoirs will provide flood control during periods of high runoff and storage capacity for irrigation water during low flow periods. The combination of structures will provide a full season supply of irrigation water for 5,000 acres with a 70 percent reliability and an on-farm application efficiency of 60 percent.

Land treatment measures also will be undertaken in the proposed project to provide conservation, development and improvement of individual landownerships in the Thomas Creek watershed. These measures will enable landowners to take advantage of a full seasons's supply of irrigation water and manage it in an efficient manner. The proposed land treatment measures would cover about 105,000 acres of rangeland and grazed forestland, about 30,000 acres of cropland, and about 25,000 acres of forestland.

As a component of the demonstration project, an ad hoc advisory group was formed. This group included local ranchers, members of environmental interest groups, county, state, and federal agency officials and technical personnel. The group attended at least eight meetings scheduled at 2-week intervals. During these meetings the group's goal was to surface and discuss potential impacts of the proposed project as well as other possible alternatives. The group's findings and supporting data are contained in the final demonstration project report.¹²

Some Notes on Process Mechanics

As would be expected, the functioning of the ad hoc groups and the role of the Environmental Impact Assessment Specialist differed to some extent with each demonstration project. Therefore, some descriptive notes should be made.

In the case of the Siuslaw Timber Management Plan, Forest Service staff provided extensive technical expertise to the advisory group and

conducted most of the programs for approximately 65 percent of the group meetings. Forest Service specialists gave presentations to the ad hoc group on their visual management system, recreation usage, wildlife inventory and assessment, soil movement problems, stream protection and Forest Service terminology and legal/managerial framework. The Extension impact assessment specialist then led the group during the remaining 35 percent of the time in examining potential socio-economic impacts, air quality, historical concerns, and other topics. This included some significant input from the Forest Service's Sociology Research Scientist.¹³

Prospective ad hoc group members were selected to represent the interests of environmentalists, timber industrialists, local officials, local planners, and federal and state agencies. Certain Oregon State University faculty members served as a peer group to Forest Service staff for critical evaluation of Forest Service methodology.

Overall, the methodology used by the Forest Service to develop the Timber Management Plan was innovative, and proved interesting to the advisory group. However, it was complex and somewhat confusing for those not familiar with the technique of overlaying mapped areas to delineate land use capabilities and limitations.¹⁴

The work done by the Forest Service toward its EIS on the Timber Management Plan was well along (EIS due date April 1977) prior to the impact assessment project involvement. Most of the data inventory and basic methodological framework were already complete.

In contrast to the Siuslaw Timber Management Plan EIS, the Corvallis Bypass project, which was done in conjunction with the State Department of Transportation, was in the very preliminary stages of environmental assessment. Although the project is at least 30-years old (the last major skirmish was in 1969, when some of the alternatives were aired in a public hearing)

a preliminary environmental assessment had not yet been undertaken.

The State Department of Transportation provided a technical advisory role with the advisory group. Departmental representatives attended most meetings but took a passive rather than active role in group activities. They responded to questions and contributed certain types of information, but were not group participants. The Extension impact assessment specialist served as group facilitator at almost all meetings and organized the information contributed by state and local agency people as well as ad hoc group members. The local Extension agent with community development responsibility also participated in most meetings.

The active ad hoc group members were primarily people who were also quite active or vocal in other local community affairs. Some state and local agencies were represented as well.

Although the project seemed clear in nature, it was made more complex by the need to consider 11 alternatives. Additional difficulties developed in defining the transportation problem and in resolving political problems related to the bypass. In retrospect, analytical efforts were restricted by the time and group energy expended on these problems of definition and political concerns.

The third demonstration project, the Thomas Creek Watershed Project, differed greatly from the first two projects in a number of ways. In terms of geographic location, it was situated in eastern Oregon, whereas the other projects were in western Oregon. Eastern Oregon has a much drier climate, with high desert ecosystems at lower elevations and pine forests at higher elevations. There appears to be differences in the social, economic, and environmental characteristics and attitudes between the people of eastern Oregon and western Oregon.¹⁵ In general, environmental organizations are

more active in western Oregon than eastern Oregon.

Thomas Creek was also different in that the local Extension agent played a much more significant role in organizing the ad hoc advisory group and participating in the meetings than in the other two projects. As in the other projects, the Extension environmental impact assessment specialist organized and moderated most of the meetings.

The demonstration project was carried out in cooperation with the Soil Conservation Service (SCS). Representatives from the SCS state planning office attended about half of the group meetings, with local SCS field representatives present at three quarters of the meetings. Technical information and guidance was provided by the SCS representatives. The composition of the Thomas Creek advisory group included staff members from local, federal, and state agencies, local officials and planners, potential project user groups, and interested citizens. The group membership was somewhat lacking in environmental interest group representation. This was due to the lack of strong environmental organizations in the area and the 300 miles distance between Lake County and the staff offices of environmental organizations in Portland.

The process was carried out immediately before initiation of work by SCS on the environmental assessment for the project. The Thomas Creek project is the top state-wide planning priority for SCS after current projects are completed. SCS started a basin-wide survey during the summer of 1976 to provide background data for their planning effort in the area.

The Thomas Creek Watershed Project, like the Corvallis Bypass, was fairly clear in project objectives with minimum complications related to structural alternatives. However, extensive non-structural alternatives to the project had not been explored fully by the project sponsors. The only

other major difficulty for the ad hoc advisory group was in understanding the SCS planning methodology (modeled after the U.S. Water Resources Council's principles and standards for water resource planning) and the function and position of the demonstration project process in the SCS procedure.

V: EVALUATION

The following analysis of the utility of the tools and environmental assessment process is based on experience with the demonstration projects and will be discussed in three parts. The first part contains the participating agencies' evaluations of the usefulness of the approach, given their experience with the process and tools applied to the demonstration projects. In the second portion of the evaluation, the U.S. Environmental Protection Agency prepared an outside evaluation of the tools and the process. The third part of the evaluation is an internal perspective of how well the process worked or did not work with the demonstration projects.

Participating Agency Evaluation

Siuslaw National Forest Timber Management Plan (U.S. Forest Service)

In a letter reviewing the effectiveness of the impact assessment process and discussing the final report on the demonstration project, the project leader for the timber management plan noted, "It will give us an excellent base for preparing an EIS".¹⁶ Additional comments were related to improving the format of the final report and recommendations were made for improving the citizen participation process.

Specifically, comments and suggestions regarding the final report mentioned that (1) a clearer format was needed, and (2) there could be a potential problem with our report having preliminary "out of date" technical information when compared to the Draft EIS, which is produced much later, resulting

in possible confusion or credibility problems.

In addition to the Forest Service letter, suggestions regarding the citizen participation process were arrived at through meetings with Forest Service personnel. Of particular significance was the conclusion that additional meetings of the ad hoc advisory group were needed in order to solicit more response from the members. It was the consensus that a good deal of the time and effort was spent "feeding" the group information and that the "feedback" or response from the ad hoc advisory group was just beginning to flow back at the time that the series of sessions were finished.

Interestingly, a criticism by many of the advisory group members was that the meetings (sessions of 3 to 4 hours every 2 weeks) took too much time. This was physically evidenced by the fact that many people came only sessions that covered topic areas of special interest; for example, the Audubon Society representative was present only for sessions covering fish and wildlife.

Another issue discussed with Forest Service personnel was whether the education benefits justified the extra time of presenting to a relatively small audience (the advisory group) a tremendous amount of technical information in order to bring them up to a certain level of knowledgeability. It was agreed that this approach was inefficient and perhaps expected too much of the ad hoc group members.

Certain modifications could be made to improve the process for complex actions, such as a timber management plan. For example, a two-stage approach would make the process more efficient. The first stage would consist of peer review of the technical methodological procedure utilizing appropriate agency, academic, and local people. The second-stage process would introduce the proposed project and issues to the general public and the advisory group

with an extensive media presentation. The development of the media materials would involve considerable expense and input from specialists initially, but eventually would mean a more efficient use of Forest Service and advisory group time. The input of local citizens would focus on values and opinions related to key decision points and on local information and knowledge that could contribute to the data base.

It was agreed that the following techniques could improve the performance of the impact assessment process: (1) written summaries prepared in advance of the meeting and distributed to members, (2) a brief illustrated overview of data and planning methods related to the topic presented at the meeting, (3) group discussion organized around the questions in the Environmental Assessment Form, and (4) backup resource people available to add details of information as needed.

Corvallis Bypass (Oregon Department of Transportation)

Indicative of the agency evaluation of the Corvallis Bypass demonstration project is a portion of the letter from the manager of the Environmental Section, Highway Division, Oregon Department of Transportation:

In general, we find the report to be quite complete in listing the various environmental requirements and concerns associated with a project of this type. We also see benefits of having this information as this project is studied and developed. . . . There has been some concern about the specific alternatives in the report, but I find the study does not recommend a specific course of action [alternative]. This is consistent with our project development procedures.¹⁷

This last comment was prompted by initial apprehension on the part of local city representatives and Department of Transportation representatives that the ad hoc advisory group would recommend a specific alternative or set of alternatives over others. This concern proved to be unfounded, as the ad hoc group agreed (after much discussion) to consider all alternatives

and, in fact, added a few as they went through their deliberations.

A comment received from another reviewer was concerned with the relationship of our preliminary assessment process to internal procedures of the state highway division. Normally, a Project Environmental Assessment is done to determine whether the action is a "major" or "non-major" one. A major action requires either a negative declaration or an EIS, depending on the significance of project effects on the quality of the human environment.

It was noted that our demonstration project went far beyond what the state highway division would normally prepare as a Project Environmental Assessment. It was closer in scope to a large negative declaration or an early impact statement. The proper phase of highway division procedures to include our process, then, is after the Project Environmental Assessment and before the negative declaration or EIS investigation is begun.

The comment points up the need to adapt the process to each agency's internal procedures. The scope and timing of the process should be determined by careful review of these internal procedures to assure maximum effectiveness of the preliminary assessment findings.

The Corvallis Planning Department made several useful comments in reviewing the demonstration project report. Most of the comments related to specific points in the report and will not be discussed here. One point, however, may serve to illustrate a contribution made by the ad hoc advisory group:

We would also agree with your estimate that a major problem, which has not been measured by any of the factors in this process, has been the perceived impact of the traffic in the downtown Corvallis area. If people think that their situation is bad, then it is bad, no matter what the statistics say. . . We would hope that the people engaged in the Environmental Impact Process would recognize this important factor. 18

Another reviewer commented that the potential project impacts listed in the report should be organized into a relative priority list. We subsequently did add to the assessment form additional steps that require the impact specialist to place the potential impacts on a scale of relative significance.

Thomas Creek Watershed Project (USDA Soil Conservation Service)

The planning staff leader, Oregon office of USDA Soil Conservation Service, made the following comments concerning the usefulness of the process:

We have reviewed the draft "Thomas Creek Watershed Demonstration Project" prepared by Oregon State University (Extension Service) and find it to be a very thorough and comprehensive document that will assist both our agency and the local sponsors in developing a quality plan to meet the needs of the watershed. Much of the technical information you had available for your use was of a preliminary nature. The recommendations developed by the Ad Hoc Committee will help identify areas where more detailed studies in specific areas will be most effective in providing a basis for making sound planning decisions.

We were impressed with the way the Ad Hoc Committee was formed and how it functioned. It provided an excellent forum for discussions covering many issues with diversified interest groups involved. The committee's work will enable the next phases of our planning process to continue with a specific direction and with a good idea of the specific problem areas that require immediate attention.

From a local perspective, the comments of the county Extension agent are interesting as well as enlightening. After the last ad hoc group meeting the county Extension agent remarked that he wondered if the project actually would go ahead, considering the issues that the ad hoc group had uncovered in their deliberations. Additionally, he noted that it had been a good experience for the ad hoc group members, forcing them to think through all the implications of what previously had been thought (and still is to some degree) a desirable project with no major problems.

In summary, the general response of agencies exposed to the environmental impact assessment process and tools, through involvement with a demonstration project, was very positive, though certain improvements on the process were suggested. Specific issues and problems raised by the cooperating agencies will be addressed in the third part of this evaluation section.

U.S. Environmental Protection Agency Evaluations

In an effort to obtain an independent evaluation of the environmental impact assessment methodology and tools, the Seattle regional office of EPA was requested to evaluate the process and tools as tested in the demonstration projects and the Corvallis Environmental Research Laboratory of the EPA was asked to evaluate the Handbook and Assessment Form and Manual as tools that could be used independently of the process. A summary of the evaluation comments from each EPA office follows.

The regional office evaluation indicated that the results of the demonstration projects were quite positive in terms of the objectives.²⁰ Specifically, the EPA review noted the process:

- Provided the agencies with a valuable checklist to better assess the range of impacts.
- Established a public participation program to reflect public concerns back to the agency.
- Added objectivity to the preliminary assessment by utilizing a third party mediating team.
- Involved a wide range of special interest groups.

A significant point made in the evaluation concerned the dependence on a "mediating team" for successful application of the assessment process. The EPA reviewers noted that in the demonstration projects, the OSU Extension Service

assisted in setting up advisory committees, developing and disseminating information for the committees, and assuring that public participation was part of the process. The question was raised as to whether this process would be as effective without the help of a third-party mediating team.

EPA also noted that the process did an excellent job of identifying potential ecosystem impacts, but, as with other EIS techniques, did not provide adequate procedures for predicting the magnitude and scope of impacts.

The evaluation by the Corvallis Environmental Research Laboratory was focused on the utility of the Handbook and the Assessment Form and Manual.²¹ Their review indicated that the materials will be useful to agencies and local decision makers and should be published. Specific criticisms were:

- An index is needed for the Handbook.
- A note should be added to the Manual indicating that local officials may need outside expertise to provide the information for the assessment form.
- A note should be added to the Manual pointing out that the Assessment Form is intended for preliminary assessment and does not represent a full environmental impact statement.

These criticisms were incorporated into the materials, except for the index. A detailed table of contents and a revised organizational format was thought to cover this criticism. Further evaluation may require addition of an index.

In-House Evaluation

The following is a brief review of each demonstration project. The review describes the conditions and circumstances which had a significant influence on the assessment process, particularly the functioning of the advisory groups.

Siuslaw National Forest Timber Management Plan

The Forest Service had already done substantial work in the areas of fish and wildlife impacts, stream impacts, soil problems, visual quality impacts, recreation considerations, and timber economics. The primary contribution of the ad hoc group was to refine and/or react to work already done in these areas as well as to identify potential economic and social impacts, topical areas that the Forest Service had not yet worked on.

The group's major contribution, then, was identification of potential social and economic impacts to community infrastructure and community values. Other contributions included identification of potential impacts to archeologic resources, especially along the coastal areas, and identification of air quality issues.

The group had some difficulty in understanding the relationship between land use planning and timber management planning within the Siuslaw National Forest. Their difficulty with Forest Service methodology pointed out that these planning relationships must be described and identified more clearly. The group also had difficulty in understanding the interrelationships of many of the impacts treated separately in the Siuslaw Timber Management plan analysis. Many of these impacts were, in fact, quite interdependent and could result in significant synergistic impacts.

During the period of the demonstration project, the Forest Service was not yet at a stage to develop specific alternatives for timber management planning for the Siuslaw. As a result the group had a difficult time reacting to technical issues and identifying potential impacts. An interim solution was to use an artificial range of scenarios, which had a maximum timber cut on one end with a minimum timber cut on the other with moderate alternative scenarios between the extremes. Given the scenarios and some basic assumptions,

the group could then try to predict impacts at both ends of the extremes and interpolate potential impacts in the middle.

Corvallis Bypass

Discussion of a Corvallis Bypass dates back to the 1940's. Over this 30-year period, several revivals of interest have occurred. Each revival usually involved a different combination of citizen groups, local elected officials, and Oregon Department of Transportation officials. This long history of discussion over the project's basic purpose and alternative solutions created certain problems in carrying out the preliminary assessment process.

One problem concerned the role of citizen groups in determining the desired alternative. It is, of course, difficult to sustain citizen interest in a project that is long term in nature. As new citizens become involved in the project, a mechanism is necessary to ensure continuity.

Compounding the continuity difficulties in the case of the Corvallis Bypass, a certain amount of skepticism existed among the ad hoc advisory group as to the value of their efforts because of the sporadic history of the project.

Another background condition that should be noted is the local political climate relative to the Bypass. Because of the long history of public debate on the project, local interest groups had already formed, so that elected officials were cautious in participating in a new review of alternatives.

The review of the 11 alternative alignments was viewed as somewhat of a futile exercise by both local officials and the Oregon Department of Transportation, as "favored" alternatives existed already among the interest groups and the Department. The least disruptive alternative to the central business district was also the most costly and, probably, unlikely alternative. The most feasible alternative would have the serious effect of separating the

central business district from the Willamette River waterfront. This combination of funding realities and active interest groups made an objective evaluation of all alternatives difficult for the advisory group. Many of the members of the ad hoc advisory group did not actively participate, for the reasons noted above. The lack of participation reduced the representative nature of the group. However, those 10-12 members who did participate probably raised most of the critical issues, so that the purpose of the group was achieved.

In spite of the long history of the proposed project, the Oregon Department of Transportation had not yet done a preliminary project assessment. Although our preliminary assessment process differed in nature and was broader in scope than the internal procedures normally used by the department for preliminary assessments, the department recognized that the findings of our process would be useful in accomplishing their own procedures. The demonstration project received cooperative support from department officials.

The Thomas Creek Watershed Project

Of the three demonstration projects, the timing of the Thomas Creek Project was the most favorable. The USDA Soil Conservation Service (SCS), as the lead agency, had placed a high priority on planning for this project. Some background studies had been done, but the draft EIS had not yet been prepared. SCS was very receptive to the demonstration project as a technique to improve the preparation of their EIS.

The ad hoc advisory group started off somewhat slowly and unsteadily, primarily because of difficulty in understanding the SCS planning process. After initial orientation sessions, the group developed a good working interaction and covered a wide range of substantive topics. This group was more efficient than the advisory groups in the other demonstration projects,

probably because its membership was more homogeneous in attitude and values and the proposed project was less complicated.

The proposed project was generally perceived as beneficial, with little, if any, organized opposition. The ad hoc group did raise a number of issues to be investigated in the draft EIS, and, to some extent, altered the complacent attitude of local and state officials toward the project by identifying some potential problems with the project.

General Evaluation Comments

Based on experiences with the demonstration projects, evaluations of the agencies involved with the demonstration projects, personal observations, and discussions with other outside parties, the following issues should be taken into consideration if a process of this type is to be utilized for environmental impact assessment.

1. Timing: The citizen participation process and use of accompanying tools is a "front end" process. That is, it is designed to be used before or during the initial preparation of the environmental impact statement. Timing is critical. Initiating the process too far in advance of impact statement preparation could create an extensive lag time, with a resultant decrease in citizen group interest and lack of continuity for both planning professionals and citizens. With regard to this issue, the Corvallis Bypass demonstration project was probably too early, as there will be an extended period until preparation of the draft EIS is started.

On the other hand, the application of the assessment process on a project for which EIS preparation has already been initiated may make it difficult to refocus the planning approach. In the case of the Siuslaw National Forest Timber Management Plan, we were probably too late for maximum effectiveness, as much of the inventory and analysis was already completed.

The problem of timing would not be as difficult if this impact assessment process were institutionalized and made part of the agency's standard procedures. However, the tight time constraints in which the research project was undertaken forced the selection of demonstration projects for which the timing was not the best.

2. Scale of the impact assessment process: Ideally the impact assessment process should be custom fitted to the individual project. In other words, to be most effective the citizen participation process should be scaled to project type and size. A single formula for all projects is ineffective.

The need for variation in the assessment process was clear during the demonstration project experience. In the Thomas Creek Watershed Project the necessary information and issue identification could have been accomplished in half the meeting time. Conversely, the Siuslaw Timber Management Plan, because of project complexity and the broad geographic area covered by the proposed action, probably required additional meeting time. However, because of time constraints imposed by funding requirements, flexibility in ad hoc advisory groups meeting schedules was not possible. This problem also would be resolved in a situation where the assessment process was part of the agency's standard procedures.

3. Balance: Every effort should be made to balance the ad hoc group so that all major ideas or interests are well represented. Environmentalists, the business community, local government, as well as state and federal governments should be represented. If this does not occur, one perspective may bias the results of the ad hoc group sessions. This point was emphasized to us by the Oregon State Fish and Wildlife Department people who, through past experience, have encountered this problem. The Thomas Creek Watershed ad hoc group was unevenly balanced until near the

end of the process due to the lack of environmental representation on the group. The Siuslaw Timber Management ad hoc group was weighted with academicians until near the end of the sessions due to the intensive interest and proximity of the OSU faculty. It could be argued that this university expertise and interest may not exist for other Forests so that this demonstration project is not representative of other situations. On the other hand, the academic community is an interest group for the Siuslaw Forest, like any other interest group.

4. Efficiency of individual time involvement: One facet of group activity that became apparent early in the demonstration projects was the importance of minimizing group time expenditures and maximizing efficiency. Initially, it was conceived that appropriate state and federal agency personnel should be included throughout all demonstration project meetings. However, it quickly became apparent that this was unreasonable due to time constraints of agency personnel. The solution to this problem was to involve technical agency people only when a subject area was covered on which they had particular expertise. Subsequently, each advisory group meeting was organized around specific topics, using the 13 topic areas of the Environmental Assessment Form.

Extending the principle of time efficiency further, it would be better to develop a two-step process for complex projects. The first step would involve technical peer reviews of data and methodology. The second step would include a standardized multi-media presentation for use with citizen groups. This device could further minimize ad hoc advisory group review time. In retrospect, this approach probably should have been used in the Siuslaw Timber Management Demonstration Project, in order to cover a broader audience, and to reduce expensive use of technicians' time to educate very few

ad hoc advisory group members. It is obvious that individuals will avoid situations where they are forced to commit large amounts of time to subject areas which are perceived as boring. Thus, if we can synthesize without misrepresentation or oversimplification, we will reduce time requirements and increase interest levels.

Another possible technique to reduce the time requirements for ad hoc advisory group members is to prepare brief technical papers for each topic area and distribute them to members before the meetings. This would permit use of meeting time to identify key questions and issues for analysis in the draft EIS. Technical resource people could be available to answer questions.

5. Ad Hoc Advisory Committee organization: As one might expect with any committee organization, extensive time was wasted in committee sessions when individuals or interest groups unreasonably debated issues or questions. However, a reduction of extended discussion is possible by structuring group meetings. During the demonstration project meetings, the 13 topical areas of the Environmental Assessment Form were utilized for this purpose. The order of these 13 topic areas can be arranged to fit the desires of the ad hoc advisory group or the major agency concerned. Once the order of topics is determined, 2 to 4 topics per meeting can be covered. By structuring a general agenda in this way the ad hoc group members know what they are going to cover in each meeting and have a sense of accomplishment when they complete the agenda.

Another mechanism for structuring meetings is the use of the blackboard matrix, on which alternatives are arranged on one axis while the other axis displays the topic areas. This approach worked especially well with the Thomas Creek ad hoc group and involved people in the process from the beginning. In contrast, the straight lectures of the Siuslaw Project presentations

may have bored many advisory committee members. Fortunately, the use of blackboard matricing during the later meetings of the Siuslaw Group produced a more active involvement of group members. Finally, a structured meeting allows all members to participate in discussions and work sessions, so that they feel they are contributing to the process.

6. Educational function vs. impact assessment feedback: A dilemma that developed in all of the demonstration project sessions was whether the assessment process was providing an educational service to a selected group of citizens rather than facilitating citizen input on environmental impact issues. While the educational aspects were of some importance, it was not the main purpose of the study design. Pragmatically, the purpose of the project was to identify those key issues or problems, as perceived by the ad hoc group members, to be analyzed in the EIS. Although we did a great deal of educating, as attested to by many participants in all three demonstration projects, it would seem that the primary purpose of identifying questions to be analyzed in the EIS requires an objective of efficiency which makes education secondary. The small group of people on the ad hoc committee does not really justify education as a principal objective.

However, it would be very desirable to structure a parallel education program to coincide with the assessment process if additional personnel were available to perform the educational responsibilities.

7. Pivotal role of Environmental Impact Assessment Specialist: The specialist involved in the demonstration projects had a great deal of educational training and prior experience with impact assessment from the perspectives of both private enterprise and government administration. The experience with the demonstration projects reinforced the importance of a well-trained and experienced person performing the role of independent impact specialist. Much of the responsibility for the success or non-success

of the process depends on the organizational skills, information handling, and filtering abilities of the specialist.

In performing his role, the specialist must be able to organize and moderate ad hoc groups; these tasks require a knowledge of group dynamics. He or she should be unbiased on the merits of the project. The specialist role is that of a facilitator of the group, not an opinion former.

The specialist must also be technically proficient in environmental impact assessment and be familiar with planning methodologies and policies used by different agencies. For example, the specialist working with our three demonstration projects had to become familiar with the Forest Service EIS process and timber management planning, highway impact assessment and transportation planning, and the Soil Conservation Service's environmental impact assessment and water resource planning procedures under the U.S. Water Resources Council's Principles and Standards.

8. Liaison relationships with agencies: In all three demonstration projects, fairly open and cordial working relationships were enjoyed with the participating agencies. Even with the best working relationships, however, there are bound to be coordination and communication problems and political pressure. In two of the projects, sensitive political issues created difficulties in carrying out the intent of the demonstration project. In one case, a politically strong interest group felt that this kind of Extension involvement would raise issues and questions not to their benefit. They made a serious effort to disrupt the process. When this strategy didn't work, they agreed to participate on the ad hoc advisory group.

In the other case, local political attitudes on the alternatives had already formed and strategies were planned to follow through with promoting the desired alternative. The demonstration project was received as "stirring up the water" and creating undesired conflicts.

It is likely that these political sensitivities are the rule more than the exception with major projects. It may work against an "open" and an "objective" process to determine significant impacts, and certainly will inhibit the way a process is carried out. Some of the key people may choose not to cooperate because of these sensitivities. To be effective, the assessment process must recognize these sensitivities and develop ways to accommodate them.

Good support from the sponsoring agency also is critical to the success of the process. The best procedure would be to sit down at an early stage with the agency involved and try to plan the proposed ad hoc group activities in detail. It would be advisable to find out what the given agency will be able to do and what it won't be able to do in the way of support and/or cooperation. This should be done for the Extension Service too, and for other facilitating organizations. Early discussions will resolve possible issues of conflict that would emerge later.

9. The role of the Extension Service in the impact assessment process:

If the Extension Service is to provide the leadership for implementing this process in individual states, it will be necessary to hire trained specialists for the job. Oregon, for example, would require two specialists with at least a master's degree and 2 years experience in environmental impact assessment. The impact specialist would need several assistants, possibly graduate students. The specialists would work out of Oregon State University on a state-wide basis and local Extension agents would provide assistance with projects in their area.

If the county Extension agent were to perform the role of impact specialist, he or she should have the necessary skills for group dynamics. But because of local assignment the agent may be biased on a given project.

Some agents lack the technical skills necessary for this group leadership task. One problem in utilizing county agents is that they tend to reflect, consciously or unconsciously, the attitudes of the local community. In the case of a proposed project, such as a flood-control dam, they may find it difficult to consider objectively "outside" interests or factors that may work against the proposal. They may create problems for themselves and other local Extension programs if project advocates resent the agent's role in surfacing problems with the project.

An involvement with controversial issues also may present a problem for university specialists. Any project of sufficient impact to require an EIS will have interest groups with strong, vested interests; some of these projects will have state-wide or regional significance and involve large and politically potent interest groups. University involvement may be interpreted as biased and lead to political problems.

The dilemma, then, can be stated in this way: impact statements for controversial actions with complex and significant impacts could benefit in terms of objectivity and validity of content from the input of an independent impact specialist associated with the Extension Service. However, the Extension Service is sensitive to controversy and interest groups in that its budget for its various programs is subject to political support at the local, state, and federal government levels. Also, the success of all of its programs depends on its positive public image and broad-based support.

It is likely that the Extension Service's capacity to perform the role of independent impact specialist will vary from state to state. In some states, this role may be quite appropriate and fit in well with other programs. In other states, some other mechanisms may be necessary.

Alternatives to the Extension Service would be a special institute established at the university or a non-profit organization outside of university administration but located near the university,²² a state agency with existing expertise, or the use of private consultants. Note that state agencies may be open to criticism as to bias and political pressures. Consultants may or may not suffer similar credibility problems, depending on their own reputations and support sources for other consulting contracts.

Finally, the agency may wish to perform the role of impact specialist itself. This approach will work better in some agencies than others, because of internal organization. That is, it may be possible to "buffer" the impact assessment unit from pressures within the agency by internal organization. However, even in the best situation, the agency is susceptible to challenges of its objectivity.

10. Use of the tools: The tools (Environmental Assessment Form and Manual, the Environmental Assessment Resource Handbook, and the Educational Program) were developed for use by local governments, agency personnel, educational institutions, and others involved in environmental impact assessment. They should be used with care, preferably with a qualified specialist's guidance. The Manual and Handbook are based on Oregon's state-wide situation. Much of the federal agency information, however, is usable throughout the country. If they were to be used in other states, the state and local information would have to be revised. We believe, however, that the basic framework would be applicable in most situations involving impact statements.

11. Institutionalizing the process and the tools: Many of the operational difficulties we encountered in the demonstration projects could be smoothed out if the process were institutionalized, particularly those of timing, agency relationships, efficiency of time, and meeting format. As

experience with the process and knowledge of information sources are gained, the mechanics of the process could be tightened up. Techniques of group dynamics and interest group participation could also be improved. Several alternatives for institutionalizing the process are discussed under Item 9 above.

VI: CONCLUSIONS AND SCOPE OF FUTURE WORK NEEDED

It is the conclusion of the project staff, based on the results of the demonstration projects and evaluations of outside agencies, that the process holds promise for fulfilling its original objectives, pending refinement and further testing. Continued testing and evaluation during the second year of the project will permit a more substantive review of both the tools and citizen participation process.

During the second year, several new projects undergoing environmental impact assessment will use the impact assessment materials. The projects will vary in kind and scope and in geographic characteristics. The principal difference between these "second-round" projects and the demonstration projects completed is that there will be no direct involvement of an Oregon State University Extension environmental impact specialist. The Extension specialist will simply provide the tools and description of the process to a local agency, Extension agent, or federal agency, with some initial assistance, but minimal direction thereafter, and will evaluate the results. It is expected that this second phase will be primarily a test of the utility of the tools, since the independent impact specialist is a key concept of the process.

The specialist also will monitor the completed demonstration projects as they progress toward a draft EIS. The most interesting project probably will be the Siuslaw National Forest Timber Management Plan EIS, which has a preliminary target date of April 1977. The two other projects are farther

from the EIS completion, although they, too, will be monitored.

During this second year, the specialist will develop a report on criteria for evaluating impact. This study will be organized around the 13 topical headings used in the Environmental Assessment Form and Manual. It is intended as a guide for use by local, state, or other levels of government in considering policies and standards for planning purposes and for impact evaluation.

One overriding concern which emerged from Extension's work on this project is the over-emphasis of impact statement procedure, rather than substance. The procedural requirements of environmental assessment and EIS preparation is in some cases causing undue hardship, especially to local government, due to sheer paperwork. The impact statement process may be jeopardizing feasibility of many local projects, not because of problems associated with impact, but because of cost and time factors associated with EIS procedures.

There should be a shift of emphasis to the substantive aspects of environmental assessment. This more truly reflects the intentions of the original NEPA legislation. A preliminary impact assessment process, such as that tested in this project, utilizing citizen participation, an independent impact specialist, and a structured assessment procedure, would be one approach to fulfilling this goal.

FOOTNOTES

- 1 National Environmental Policy Act, U.S. Code, Vol. 62, Sec. 4321 et seq., 83 Stat. 852, Pub. L. 91-190 (1970).
- 2 Lynton K. Caldwell, "The National Environmental Policy Act: Retrospect and Prospect", Workshop on the National Environmental Policy Act, prepared for the Subcommittee on Fisheries and Wildlife, Conservation and the Environment of the Committee on Merchant Marine and Fisheries, U.S. House of Representatives by the Environment and Natural Resources Policy Division, Congressional Research Service, The Library of Congress, Washington, D.C.: (USGPO, Feb. 1976) Serial No. 94-E.
- 3 Stephen D. Kelly, "Environmental Impact Statements - Boon or Boondoggle?" Public Works (September 1973).
- 4 Florida Department of Administration, An Evaluation of the Environmental Impact Statement Process (1976), and Richard N. L. Andrews, "NEPA in Practice: Environmental Policy or Administrative Reform", Workshop on the National Environmental Policy Act op. cit.
- 5 Richard C. Smardon and Ronald C. Woodland, "Preliminary Results of an Environmental Impact Report Review Process (EIRRP)" Journal of Environmental Systems, (1976-1977)
- 6 Workshop on the National Environmental Policy Act, op. cit. for a discussion of a wide range of proposals to improve implementation of NEPA.
- 7 Skidmore, Avings & Merrill et. al., Environmental Assessment Notebook Series, prepared for U.S. Department of Transportation, Washington, D.C. (U.S. Government Printing Office, 1975).
- 8 Kathleen M. Reavis, "Criteria of Effectiveness of Environmental Impact Assessment: A Critique of the Federal Council on Environmental Quality Guidelines and the Massachusetts Executive Office of Environmental Affairs Regulations" Masters Thesis, Department of Landscape Architecture and Regional Planning, University of Massachusetts, (May 1975), unpublished.
- 9 Council on Environmental Quality, Environmental Impact Statements: An Analysis of Six Years' Experience by Seventy Federal Agencies (U.S. Government Printing Office, March 1976).
- 10 Richard C. Smardon, "The Siuslaw National Forest Timber Management Plan Demonstration Project", as part of a project entitled Environmental Impact Assessment: A Framework for Local Participation and Decision Making, Oregon State University Extension Service, Corvallis, Oregon (May 26, 1976).

11 Richard C. Smardon, "The Corvallis Bypass Demonstration Project", as part of a project entitled Environmental Impact Assessment: A Framework for Local Participation and Decision Making, Oregon State University Extension Service, Corvallis, Oregon (May 14, 1976).

12 Richard C. Smardon, "The Thomas Creek Watershed Demonstration Project", as part of a project entitled Environmental Impact Assessment: A Framework for Local Participation and Decision-Making, Oregon State University Extension Service, Corvallis (May 7, 1976).

13 Dr. Richard Gale is the Sociology Research Scientist for U.S. Forest Service. He is based in Eugene, Oregon with the Willamette National Forest and is developing a Social Impact Assessment Notebook for the U.S. Forest Service.

14 Overlay method developed by Ian McHarg, Department of Landscape Architecture and Regional Planning, University of Pennsylvania, Philadelphia, Pennsylvania.

15 Robert Mason, G. David Faulkenberry and Alexander Seidler, The Quality of Life as Oregonians See It, Oregon State University, Corvallis, Oregon (December 1975).

16 Letter from John Hoffman, U.S. Forest Service, Siuslaw National Forest, Corvallis, Oregon (July 1976).

17 Letter from Gary A. Potter, manager, Environmental Section, Highway Division, Oregon Department of Transportation (July 23, 1976).

18 Letter from Virgil Adams, director, Corvallis Planning Department (August 9, 1976).

19 Letter from Edward G. Riekert, planning staff leader, USDA Soil Conservation Service, Portland, Oregon (June 24, 1976).

20 Letter from Walter D. Jaspers, director, Office of Federal Affairs, U.S. Environmental Protection Agency, Region X, Seattle, Washington (August 25, 1976).

21 Letter from Harold Kibby, Corvallis Environmental Research Laboratory, U.S. Environmental Protection Agency, Corvallis, Oregon (August 17, 1976).

22 For a discussion of organizational formats see James R. Pease, Public Service and the Public University: Environmental Problem Solving and Research, Water Resources Research Institute, University of Massachusetts (1972).

APPENDIX

OTHER PROJECT PUBLICATIONS

<u>Title</u>	<u>Publication Date</u>
Environmental Assessment Form & Manual	November 1976
Environmental Assessment Resource Handbook	April 1977
A Survey of Geographic & Resource Information Systems	April 1977
The Role of Impact Statements in Public Decisions (A Slide/Tape Educational Package with Leader's Guide and Handout Material)	April 1977
Reports of the Three Demonstration Projects	July 1976
Criteria for Impact Assessment	October 1977

Information on availability of reports may be obtained from Lawrence Heffner, USDA Extension Service, Room 5503 South Building, Washington, D.C. 20250, or James R. Pease, land resource management specialist, Oregon State University Extension Service, Department of Geography, Corvallis, Oregon 97331.