

PROBLEM SOLVING USING TRIANGULATION
AND ORGANIZATIONAL CULTURE

by
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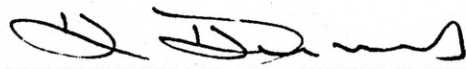
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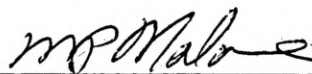
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ABSTRACT

The purpose of this research was to investigate, diagnose, and define problems in the Fisheries Division so a planned organizational change can occur. The procedures used to diagnose the problem examined the organization's technical, political, and cultural areas. After analysis of these areas, organizational culture was chosen as the focal point of diagnosis.

Two research methods, an interview and a survey, were used to diagnose the problem. This is known as triangulation or multi-methods and is used to achieve convergent validity. The survey used in this study was the Team-Building Checklist. Thirty-three biologists were selected to receive the surveys. The return rate was eighty-five percent. Nine interviews were conducted with three Helena biologists and six field biologists.

Significant areas of concern identified by survey results were split into two categories, those with "High Evidence" and those with "Low Evidence." There was "High Evidence" of grievances, unclear decisions, lack of recognition for good work, and confusion about assignments. There was "Low Evidence" of apathy, problems in working with the boss, and lack of goals or low commitment. Two statistical tests were used to measure the strength of association between Team-Building Checklist variables, Kendall's Tau B and Pearson's R, in order to fully examine problem areas.

Problems identified in the interviews centered around the lack of trust between the central office and the field office and a lack of leadership. A norm expressed in the interviews focused on the high commitment level expected of Fisheries Division employees along with a large workload and inadequate rewards. Another norm prevalent in the interviews was that the central office, i.e., the leadership in Helena, is indecisive.

Once the results of the survey and the interview were examined, significant findings were converged. The convergence identified two problem areas and two norms. The problems were lack of leadership and distrust between the state and field offices. The norms were "high level of commitment combined with a large workload and inadequate rewards," and "the central office is indecisive."

CHAPTER I

INTRODUCTION

Management of the Montana Fish, Wildlife and Parks Department (FWP), Fisheries Division has recognized a problem within the Division. This research analyzes the problem to provide a concise definition for the Fisheries Division so a strategically planned change can be implemented. The components of the problem as defined by Pat Graham, Chief of the Management Bureau, Fisheries Division, provide the following introduction.

Issues Leading to Change

The problem faced by the Fisheries Division manifests itself between the field and state offices. Although all professional employees in both offices are biologists, they do not share a general idea of the best way to accomplish the Division's mission. Field biologists lack confidence in their Helena counterparts as evidenced by their view of Helena as a "bureaucratic mess."¹ Furthermore, field biologists assume that biologists in Helena cannot understand problems that occur in the field. The Division is not united in the effort to achieve common goals. Biologists are expending a great deal of energy on internal strife. Pat Graham, Chief of the Management Bureau, Fisheries Division, is concerned about the problem and would like the Division to develop a sense of teamwork. He sees the problem between

the field and the Helena offices as a barrier to changes the Division would like to implement in planning strategies.

The Fisheries Division would like to be proactive in their planning process. Therefore, one of the goals of the Division is to create a statewide, comprehensive, long-term plan. Professional employees throughout the Division will participate in the plan's development. This entails getting individuals from the field and the state office to work together to mutually agree upon statewide Division priorities. In order to successfully complete and implement a comprehensive Division plan, a team atmosphere is sought. Coordination and cooperation are necessary. Perceived differences between the field and state offices must be overcome.

Along with development of a comprehensive statewide plan, the Division would like to enhance field biologists' human interaction skills. Field biologists are in a transition period. Biologist positions entail increased use of social interaction skills. The emphasis of the Division is on habitat protection -- allowing streams to "do their own thing."² This emphasis doesn't exercise biologists' expertise to its fullest potential. Instead they are in a position where social interaction has increased, e.g., interaction with landowners, conservation groups, boat owners, etc. While formal education prepared them for the technical aspect of their positions, it did nothing to develop strong social interaction skills.

The Division has decided to invest in training designed to enhance biologists' communication skills. Conflict management, interpersonal communication skills, and team building are some of the topics upper

management would like to offer to biologists through training. The intention of upper management is to improve the social interaction skills of biologists.

The Fisheries Division has identified three areas of concern which will be taken into consideration in this research: (1) a perceived barrier between the field and state offices, (2) the development of a statewide comprehensive plan, and (3) an increased emphasis on communication skills, i.e., human interaction skills. These three areas will be of particular importance in the analysis of the Division for problem definition.

Statement of Purpose

The purpose of this research is to investigate, diagnose, and define problems identified in the Fisheries Division of FWP to allow for a planned organizational change. Although upper management in the Fisheries Division realizes that a problem exists, they feel unable to treat it because of its general nature. According to Graham, "You can't treat something you can't define."³

Problem Approach

A literature review was performed to determine the best method of diagnosis. After reviewing several approaches to organizational change, the method used by Noel Tichy in *Managing Strategic Change* was selected.⁴ This particular method divides the organization into three areas: technical, political, and cultural. Review of all three areas ensures

that a holistic approach will be used to diagnose the organization's problem.

Examination of the Division's history regarding organizational change provides background essential to the research. If one area has been the center of change, it is very likely that the other two areas are out of alignment and should be closely analyzed. In this case technical change has occurred regularly in the Division while political change occurred in the early 1980s. The organization's culture has not been examined or managed in the organization's history. This makes culture fertile ground for problems.

Organizational culture as a focal point of research allows the researcher to delve into the organization's communication system. All three areas that have been identified as problematic are related to communication: (1) the barrier between the field and state offices, (2) the development of team effort among all professional employees, and (3) the enhancement of biologists' communication skills. Therefore, researching organizational communication through organizational culture will be the focal point of research.

Research Methods

Data will be collected using both qualitative and quantitative methods. This type of research is known as multi-methods or triangulation.⁵ Multi-methods are termed triangulation because qualitative and quantitative data make up two points of a triangle. The third triangle point is the data convergence. Only data which is significant in both methods moves to the point of convergence. Triangulation, therefore,

yields convergent validity. Analysis of the points of convergence is expected to provide a concise definition of the problems that the Fisheries Division faces.

The Team Building Checklist⁶ will be used to survey members of the Fisheries Division. This survey allows the researcher to identify general problem areas. The Team Building Checklist contains questions that are central to organizational culture and is grounded by an interview.

The interview will be used to gain qualitative information. Employees to be interviewed will be chosen at random. The interviews include questions about the organization's problems, norms, and values. The underlying assumptions that make up organizational culture are expected to emerge from the interviews.

Organization of Paper

The second chapter of this paper discusses organizational change and the diagnostic approach used to analyze the Fisheries Division. It gives a clear definition of organizational culture and discusses the effect culture has on employees.

Chapter three includes a historical review of the organization's technical, political, and cultural areas. The review is followed by a description of the research methods used to study the Fisheries Division's organizational culture. The procedures used to collect data are also reviewed here.

Chapter four examines the significant findings of the survey and the interviews. In this chapter the results of the two methodologies

are converged. Results of the data are used in the problem definition for the Fisheries Division.

Chapter five includes a summary of the problems that the Fisheries Division faces.

Notes

¹Interview with Pat Graham, Chief, Fish, Wildlife and Parks Department, Helena, Montana, 2 September 1986.

²Ibid.

³Ibid.

⁴Noel M. Tichy, Managing Strategic Change: Technical, Political, and Cultural Dynamics, Wiley Series on Organizational Assessment and Change (New York: John Wiley & Sons, 1983).

⁵Todd O. Jick, "Mixing Qualitative and Quantitative Methods: Triangulation in Action," Administrative Science Quarterly 24 (1979): 602.

⁶William G. Dyer, Team Building: Issues and Alternatives (Reading, MA: Addison-Wesley Publishing Co., 1977), pp. 36-40.

CHAPTER II

RELEVANT LITERATURE

Organizational culture is the logical focal point of research. Further investigation of organizational change, diagnostic approaches, and organizational culture will provide a greater understanding of culture's effect on the organization. The following literature review provides the background for definition of the Fisheries Division's problem.

Organizational Change

The Fisheries Division, upper management, realizes a problem exists and is taking steps to manage change in the Division. According to William Dyer, before a change strategy is developed, it is critical that the target of change be clearly identified -- individuals, groups, or collectives. The change strategy is different for each category.¹

The Fisheries Division is an organization because it contains a stable set of individuals working towards a common mission. As an organization, communication plays an important role in its function.² Communication is the underlying superstructure of an organization and the Fisheries Division is no exception.

The Fisheries Division would like to implement organizational change in order to meet present and future challenges. Edgar Schein defines organizational change as "... induction of new patterns of

action, belief, and attitudes among substantial segments of a population."³ The Fisheries Division intends to manage or plan the organization's change. The definition of a planned change for this research comes from the separate works of Dyer and Noel Tichy. Planned change is the contrived action which occurs because of an inadequacy in the organization. The change is an attempt to manage uncertainty in the technical, political, and cultural areas of the organization.⁴ Before planned change can occur, data needs to be collected and the problem diagnosed.⁵ The next step is to determine a method for diagnosis.

Diagnostic Approach

Several methods were reviewed to diagnose the Fisheries Division, including one described by Noel Tichy.⁶ Tichy's method takes into consideration a holistic view of the organization by analyzing the organization's technical, political, and cultural areas. Many methods focus on only one area of analysis and disregard others. Tichy's method is applied to the Fisheries Division because all three areas -- technical, political, and cultural -- are clearly evident in the Division.

Technical problems are concerned with production or output. Political problems revolve around the allocation of power and resources. Cultural problems are those involved with the values, objectives, beliefs, and interpretations shared by organizational members.⁷ Tichy compares the organization to a rope, with each area -- technical, political, and cultural -- making up a strand of the rope. When viewed from a distance, it is difficult to tell the strands apart; yet in order to fix one strand, the rope has to be pulled apart and examined.⁸ If one

strand is weak, the rope is weak; if one area of the organization is weak, the entire organization is weak. All three areas will be reviewed in order to find the problem area that will be the center of diagnosis. Review includes present and past organizational experiences.

According to Tichy, an organization's history is important to the researcher because it is used to identify organizational patterns.⁹ If one area of an organization continually receives attention and the others are left to manage themselves, the organization becomes unbalanced and the problems will continue.

The approach used in this research will include a historical review of the technical, political, and cultural aspects of the Fisheries Division. Qualitative and quantitative information will also be gathered and all information will be used to define the problems. The approach combines triangulation with a historical perspective.

Culture as a Critical Problem Area

Tichy cites organizational culture as both ". . . the most pervasive element (in an organization) as well as the least obvious. . . . As a result, it is frequently overlooked in strategic change efforts."¹⁰ Tichy goes on to point out that if the organization wants to use team and interpersonal relations techniques to change the organization (a goal of the Fisheries Division), then organizational culture is directly affected.¹¹

Schein gives these reasons why organizational culture should be studied:

- (1) Organizational cultures are highly 'visible' and 'feelable.' The phenomenon of culture is real and has impact. . . . Any phenomenon so real should be better understood.
- (2) Individual and organizational performance, and the feelings that people in an organization have about that organization, cannot be understood unless one takes into account the organization's culture.¹²

Fisheries Division upper management can feel that a problem exists, but they can't define it and consequently cannot solve it. It is very likely that the problem the Fisheries Division faces is one of a dysfunctional organizational culture. Because culture has such a strong impact on organizations and affects organizational performance, it is the main cause of the Division's problems. Organizational culture affects the Division, it exists, yet it isn't something management has been trained to analyze or manage.

The problem lends itself to the use of organizational culture as a method of analysis for several reasons. Schwartz and Davis state, "Organizational culture constrains organizational strategy and policy."¹³ This observation as related to the Fisheries Division affects its goal of developing a long-term comprehensive statewide plan. Culture could very likely constrain strategy and policy development during the Division's planning process. Without a culture analysis, development of a long-term comprehensive plan would be difficult.

"Conflicts between departments or conflicts accompanying mergers are caused by different cultures."¹⁴ This statement applies itself to the conflict between the field and state offices. Cultures need to merge if a team atmosphere is to prevail. In order to diagnose the problem, therefore, organizational culture will be the focal point.

Organizational Culture

An organization's culture is the norms and values that employees share; they are long-term and shared by employees at all levels. For example, IBM expresses the value of top quality customer service in "IBM means service." IBM employees know this and act upon it by giving their customers high quality service. Another example is a destructive norm found in almost all organizations; it is to "cover your backside." To do this, employees focus on recording everything that leads to a particular goal. The result is that an employee can easily get bogged down in the process of achieving a goal instead of using his/her potential to do the best job possible. Schein defines organizational culture as

. . . an underlying set of assumptions that the group or organization has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.¹⁵

A cultural analysis, according to Linda Smircich, allows us to question those taken-for-granted assumptions raising issues of context and meaning, so that underlying values may be brought to the surface.¹⁶

Michael Pacanowsky and Nick O'Donnell-Trujillo see the motive of organizational culture research as understanding how organizational life is accomplished communicatively.¹⁷ Renowned anthropologist Edward T. Hall defines culture as patterned communication.¹⁸ A well-known psychologist, Morton Deutsch, concurs.¹⁹ According to Gary Kreps, "Organizations can promote the development of their culture by utilizing their

formal and informal communication systems to disseminate cultural information."²⁰

Organizational culture is carried on primarily through informal communication channels, although both formal and informal communication is affected. Ellen Wallach writes that, "Understanding culture means understanding the difference between the formal and the informal rules, the espoused way of doing things and the real way."²¹

Organizational culture research provides insight to employee behavior toward the formal and informal structure of the organization. For example, if the informal communication structure has an opinion leader, someone who has great influence over the organization, and employees look to this person for the norms that guide behavior, the formal leader will have less influence over employees' norms and values and will be less effective. Organizational culture is entrenched in organizational communication.

Michael Albert and Murray Silverman cite "increased employee effort, pride, and loyalty"²² as one of the benefits of an effective culture. Greater satisfaction is experienced with organizational relationships when employees perceive they are adequately informed.²³ Therefore, strong organizational norms aid in adequately informing employees. Effective organizational cultures help employees understand the basic elements of organizational goals.

Paul Muchinsky conducted a study concerning organizational communication, organizational climate, and job satisfaction. Muchinsky's findings can be summarized in the following way:

Muchinsky found the organizational communication dimensions of trust, influence, accuracy, directionality-downward, directionality-lateral, and communication satisfaction to be significantly related to all or most of the climate dimensions . . . trust and influence scales were the more consistent correlates of perceived climate.²⁴

Mary Zalesny, Richard Farace, and Ronnie Kurchner-Hawkins found that, "Social environment was consistently related to trust in administration and was also strongly related to job satisfaction, perceived job characteristics, and involvement."²⁵ This is consistent with the work of others.²⁶

Organizational culture gives individuals within the organization a sense of stability (what H. Mehan and H. Wood refer to as structure and predictability of organizational phenomena) by linking organizational members in a common social reality.²⁷ Perhaps the most important thing organizational culture does is to give employees what Andrew Pettigrew refers to as a general sense of orientation.²⁸ Without the stability offered by culture, individuals would have a difficult time working in an organization.

Organizational culture affects employee behavior in many ways. Primarily, communication is affected by organizational culture. Furthermore, it allows employees to understand and predict phenomena that happen within the organization. Employees in all types of organizations are affected by culture. If the culture is dysfunctional, problems occur.

Culture and the Public Sector

Although organizational culture studies to date have been done primarily in the private sector, the public sector of late is also the subject matter of study. Harold Siedman and Robert Gilmour, in *Politics, Position and Power*, state that each government agency has its own culture. The culture, made up of internal loyalties and values, guides the action of an agency and influences agency policy.²⁹ Their description of the importance of agency culture follows:

Shared loyalties and outlook knit together the institutional fabric. They are the foundation of those intangibles that make for institutional morale and pride. Without them, functions could not be decentralized and delegated with the confidence that policies will be administered consistently and uniformly. . . . Institutional responses are highly predictable, particularly to new ideas that conflict with institutional values and may pose a potential threat to organizational power and survival. Knowledgeable Budget Bureau officials once estimated that agency position on any major policy issue can be forecast with nearly 100 percent accuracy, regardless of the administration in power.³⁰

Siedman and Gilmour make the argument that culture not only exists in agencies, it is vital to their very existence. Also, interestingly enough, they point out that values and loyalties within the organization remain the same regardless of the administration in power.

Thomas Peters and Robert Waterman, in a study of 75 successful private sector businesses, identified culture as a major factor of organizational success. They cite the following eight attributes that characterize the distinction of excellent companies:

- (1) A bias for action, (2) closeness to the customer,
- (3) autonomy and entrepreneurship, (4) productivity through people, (5) hands-on/value-driven, (6) stick to

the knitting, (7) simple form/lean staff, and (8) simultaneous loose-tight properties.³¹

Throughout their work they refer to organizational culture as an essential quality of excellent companies.

Alan Balutis, director of the Office of Management and Organization, U.S. Department of Commerce, refers to a study done by the President's Council on Management Improvement in the public sector which mirrors the study done by Peters and Waterman, when he states, "It is no surprise that there are numerous similarities between 'excellent' organizations in the public and private sectors."³²

Harold Williams, a former deputy assistant secretary for trade adjustment assistance in the Department of Commerce, feels that it would be difficult for the public sector as it now exists to incorporate the attributes set forth by Peters and Waterman. However, he feels, "... there is much the federal government can learn from *In Search of Excellence*.³³ He proposes an experiment which would transplant some of the lessons from well-run companies cited by Peters and Waterman to the public sector. Williams recommends experimenting with organizational values in the search for bureaucratic excellence.

It is clear then that culture exists in both the public and private sectors. Veterans of the public sector, while they have differing opinions on the applicability of *In Search of Excellence* to public sector organizations, recommend culture management as a tool to increase the quality of public sector organizations. Culture is a viable study in both the public and private sectors.

Summary

The Fisheries Division is an organization and as such relies on communication to achieve common goals. The Division intends to plan organizational change to reduce the barrier between the Helena and field offices. In order to plan a change, the problem needs to be diagnosed. The method of diagnosis which recognizes the organization in holistic terms is that recommended by Tichy -- examining technical, political, and cultural aspects of the organization. The organization's history will be reviewed in order to identify patterns of change in the Division. Organizational culture will be the focal point of diagnosis.

An organization's culture is the underlying set of assumptions that it uses to deal with its problems. Organizational culture is disseminated through formal and informal communication channels. Organizational culture is an area which is affected by development of team building and interpersonal skills. A goal of the Division is to develop team building and interpersonal skills. The Division recognizes and wants to reduce conflict between the field and Helena offices.

Differing cultures between two sectors of an organization, like the field and Helena offices, cause conflict between the two organization sectors. Culture is "feelable" and "visible" and has a strong impact on organizations. The problem within the Division exists; they can feel it, but cannot manage it. Culture exists in all organizations, both public and private sectors. Research methods used to gather data in this public sector organization will be discussed in the following chapter.

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⁴Dyer, op. cit., p. 14; Tichy, op. cit., p. 17.

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⁷Tichy, op. cit., pp. 9-10.

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CHAPTER III

HISTORICAL REVIEW AND RESEARCH METHODS

This chapter begins with a historical review of the Division's technical, political, and cultural areas. The historical review is included because it provides insight into the Division's problems and adds valuable background which enhances the researcher's analysis of the Division's problems. The historical review is followed by a discussion of research methods available that deal with organizational culture.

Historical Review¹

When the Department of Fish, Wildlife, and Parks originated in the late 1800s, the main emphasis of the Fisheries Division was on fish stocking and enforcement. The Division saw a major shift in priorities with the influx of biologists because they had professional loyalty and used expertise on the job. Prior to the entry of biologists into the Division, consistent regulations on stocking streams did not exist. The job was done in large part by politics -- wherever employees wanted to put fish. Fish planning evolved to become the primary purpose of the Fisheries Division and enforcement took on a support role.

In the 1960s the Division began to emphasize habitat protection. The influence of hatcheries on the Division's policies lessened. Hatcheries became a tool of management rather than a mission by themselves. In the 1960s the department began the switch from planting catchable

size fish to smaller fish because of cost effectiveness. In the mid-1970s, a decision was made, based on biological studies, to quit stocking fish in streams. The public responded negatively to the transition, but the Division maintained its stance. The hatcheries are managed very efficiently today.

The role of the Division's work is presently undergoing change. Fishing is evolving from a sport done for consumption to a sport done for pleasure, i.e., catch-and-release fishing. This has affected the Division, its planning, and activities. While the Division faces internal changes, the department is also reacting to changes made in the recent past.

The environment of Fish, Wildlife and Parks has changed dramatically in the last six years. Governor Schwinden, in his first State of the State Message, promised "cost-conscious, people-sensitive management" in order to end the "trend toward bigger government."² The Governor's promise had a direct impact on FWP.

The Governor's Council on Management put forth a recommendation, approved by the Governor, to reorganize the Department of Fish, Wildlife and Parks.³ Divisions were disbanded, the hierarchial structure changed, the power of the Fish and Game Commission lessened, and a new Director, Jim Flynn, took over. Flynn is the first professional administrator (nonbiologist) to take the position of Director long term. The Division has felt the effect of the departmental changes.

Biologists now spend a great deal of time socially interacting with various groups that the Division regulates, e.g., fishermen, guides, outfitters, which affect stream and lake habitats. In the early 1980s

the departmental policy on political issues changed. The Division changed its stance from rallying with interest groups against the legislature to acting as a moderator between the legislature and the interest groups.

The role of the biologist in the Fisheries Division has evolved from a relatively simple one with few regulations to a complex job with many policies and regulations. Enforcement and fish stocking were the two primary functions of the Division in the beginning. Stocking was facilitated by heavy use of hatcheries. Later, enforcement became a support function -- secondary to fish planning. Because of the Division's emphasis on wild trout fisheries and improvement of cost effectiveness, hatchery use lessened. As fishing moves from a consumption sport to a pleasure sport, the job of biologists becomes more diversified. As an added complexity, the biologist spends more time working with various groups in a social interaction process.

Review of the Division's history shows that a major portion of organizational change has taken place in the technical area. Political changes have occurred in the recent past, but there has been no activity to change the organization's culture. History points to culture as being the most prominent place where problems might be. Before discounting the technical and political areas for examination, however, their present status within the Division should be analyzed.

Technical, Political, and Cultural: 1986

According to Pat Graham, the technical aspect of the Fisheries Division shows few signs of problems. The only technology which could

pose a slight problem is the addition of the computer to the Division's work. Graham feels any problem in the technical area is secondary to other problems in the Division.⁴ Technical problems in any organization are typically noticed and corrected in short order due to their effect on production. Typically, management in organizations engages in several activities to deal with technical problems, e.g., goal setting, strategy formulation, organizational design, and the design of management systems.⁵

Political problems typically originate due to concern in the following five areas: (1) succession, (2) goals, (3) means of doing work, (4) environmental changes, and (5) reward allocations.⁶ The political area has come through major changes in the recent past. In the early 1980s, with the transition to a new Director, the department faced political uncertainty which caused anxiety. A change occurred in departmental strategy regarding interaction with the legislature, interest groups, and the media. The Ecological Services Division, a division central to the spirit of the Division's political efforts, was eliminated. The duties and personnel of the Division were transferred to other divisions. The power structure changed. Once the change was completed, uncertainty and anxiety in the political area lessened. The political area is still an active ground for problems due to goal concerns, means of doing work, and reward allocations.

Change in the political area triggered unrest in the organization's culture. Division members were forced to accept new policies that went against past practices and beliefs, e.g., the manner in which the entire department rallied on political issues and the wearing of uniforms in

the field. Problems surfaced in the organization after the political change, e.g., conflict between the field and Helena offices. Political and organizational culture problems are intertwined in the Division. However, in order to reach Divisional goals, reducing conflict between Helena and the field, team building, improving human interaction skills, organizational culture is the center of diagnosis.

Research Methods

Several well-known researchers feel that organizational culture research should be done using qualitative methods, i.e., interviews, observation, etc.⁷ However, the qualitative method by itself is prone to bias from the researcher. Two researchers could come up with differing conclusions depending upon their perspective. Pancowsky and O'Donnell-Trujillo point out a caveat of one qualitative methodology, direct observation. The researcher could become entrenched in the organization resulting in the inability to distinguish norms and values.⁸ Although qualitative methods are not free of bias, they are still the recommended way to gain information about an organization's culture.

One way to reduce bias is the use of two different methodologies, a qualitative and a quantitative. Terrance Albrecht and Vickie Ropp feel the combination of qualitative and quantitative methods "provides breadth and depth in examining relational processes."⁹ Application of a qualitative and a quantitative method enhances research validity. This method of research is known as multi-methods or triangulation.

Norman Denzin broadly defines triangulation as "the combination of methodologies in the study of the same phenomenon."¹⁰ Triangulation,

because it uses two methods of research, reduces the risk of results that are dependent upon a certain methodology. Two methods are used to gather data and, after separate analysis of results, significant conclusions that emerge from both methods are converged. The results validate one another; thus triangulation yields convergent validity. In discussing convergent validity, Ronald Weiers states:

To the extent that a concept exists, we should be able to measure it by means of different measurement approaches. . . . multiple methods of research are often applied so that the strengths of each will tend to compensate for their various weaknesses, and convergent validity will lend support to their common conclusion.¹¹

The use of triangulation in the study of organizational culture is highly recommended by well-known researchers. Raymond Falcione and Elyse Kaplan state that the method of triangulation in the study of organizational culture is "crucial."¹² James DiBerardinis strongly advocates the use of triangulation in studying organizational culture for the following reasons: ". . . the weaknesses of either the quantitative or qualitative techniques are mitigated, and conclusions about the organizational culture proceed from convergent data."¹³

Triangulation gives the researcher flexibility to identify general problems via a quantitative measure and fully define the problems using a qualitative measure. Organizational culture, because of its nature, is a good topic on which to use multi-methods for the purpose of narrowing a general problem to a specific one. DiBerardinis uses a bank and an equipment company as examples of narrowing a general problem, poor communication, to a very specific problem that can be dealt with:

The bank interpreted poor communication as: upper management has a hard time listening to employee ideas and problems, lack of information about changes from top management to lower levels, and lower level employees felt that the officers (top management) were not open and honest in the communication. Whereas, the equipment company interpreted poor communication as: lack of critical information related to equipment problems and failure, defensive and competitive interacting with the Engineering Department.¹⁴

Both organizations felt poor communication was a major problem, yet both had very different interpretations of poor communication. Triangulation facilitates the process of identifying and defining problems. It allows the researcher to reduce problems of a general nature to a specific area that can be treated. The survey and the interview are used in this research because they complement each other.

The Survey

The survey is used as one of the research methods for several reasons. Don Faules, in his performance appraisal research using triangulation, uses the survey for the following reasons: it opens the door to research, most organizations are familiar with it, it provides general information on several topics, and it is most representative of traditional research methods.¹⁵

The survey used in this research is the Team Building Checklist¹⁶ (Appendix A). It allows the researcher to identify problems by measuring employee perceptions of the following: loss of production, grievances, conflicts or hostility, unclear relationships between people, clarity of goals, apathy, effectiveness of staff meetings, problems with supervisors, poor communication, trust, formation of decisions, rewards, and teamwork. The survey consists of fourteen

questions with a Likert-type scale which measures employee attitudes. The Team Building Checklist is used because it provides information about the cultural and political areas of the organization, e.g., rewards, team effort, goals, etc. It is not complicated and offers valuable information about the organization's norms and values.

The Interview

The interview was used as a means of collecting qualitative data. It provides information about employee perceptions of how the organization operates. Observation as a method of analysis for organizational culture was not used because it is subject to the researcher's interpretation and may not explain what underlying assumptions exist in the organization. Interviews can be done in a relatively short time span. Observation, on the other hand, would have taken a larger time investment because of the organizational geographical structure.

The interview used here gathered general information about organizational problems. Questions were asked about the employee's perception of problems, norms, qualities, and faults of the organization. Each interviewee was asked the following four questions:

- (1) If you had your choice, what problem would you want this organization to work on?
- (2) What norms guide the attitude and behavior of the employees in this company? [Examples were given if the employee did not understand what was meant by norms.]
- (3) Tell me what you like about working here.
- (4) Tell me what you dislike about working here.

This method of interview allows employees to draw upon all past experiences and future expectations for their answers. Interviewees are not limited in scope to answer specific questions about the organization. Questions asked in this manner allow the employee ample room to add attitude and value statements about the organization.

In a study of performance appraisal by Don Faules, the interview questions focused on stories that were common to employees about the organization's performance appraisal.¹⁷ Faules often had to probe the respondent for answers; probing could bias the reply. Faules recorded comments on index cards and categorized them. The use of stories made the job complex. The general problem solving approach used in this research does not require probing because employees typically respond immediately.¹⁸ Because direct questions are used, data is easier to categorize and the risk of bias in categorization decreases.

Procedures

Survey Procedures

According to Peters and Waterman, management greatly influences an organization's culture.¹⁹ John Naisbitt and Patricia Aburdene in *Reinventing the Corporation* make the statement, "Strong [organizational] cultures, like strong family cultures, come from within, and they are built by individual leaders, not consultants."²⁰ Thirty-three biologists were selected for the research. Seven reside in the Helena office and twenty-six are in the various regions of the state. The thirty-three biologists make up the permanent management staff and were selected because of their impact on organizational behavior.

Surveys were distributed in late April and returned by May 15, 1986. On May 7, Pat Graham sent out a request to all employees who had received the survey urging those who had not returned surveys to do so by May 15. Twenty-eight biologists responded, for a return rate of 85%. To ensure employee anonymity, surveys were not marked to identify employees from the field or the state office.

Interview Procedures

Nine interviews were conducted with three employees from the Helena office and six employees from field offices. The interviews were divided between the field and state offices in proportion to the number of biologists in each, i.e., one-third of the biologists are in the Helena office while two-thirds are in the field. Eight interviews were conducted by Jim DiBerardinis, Communications Consultant, during the week of May 19-23. One interview was conducted by the author of this paper on September 2, 1986. Interviews lasted approximately thirty to forty-five minutes. Interviews were conducted in person unless arrangements to do so were difficult. In those cases interviews were conducted over the telephone.

Comments were recorded by the interviewers during the interviews. After completion of the interviews, comments were reviewed to decrease the amount of researcher bias. Comments from the interviews are brief and to the point. The comments recorded by interviewers will be the source of data for convergence.

Summary

A highly recommended method of research for organizational culture is that of qualitative research. Some caveats exist in the gathering of qualitative data. Therefore, two methods will be used, an interview and a survey; this is known as triangulation or multi-methods. By use of two methods and convergence of significant results, research validity is enhanced. Triangulation also provides the opportunity to view the organization from a general perspective via the survey and an in-depth perspective via the interview. In this manner the research is complete without the risk of being too general or missing any important details.

Surveys were sent out in April 1986 and returned May 15. Thirty-three biologists were selected to receive the surveys. Twenty-eight surveys were returned, for a return rate of eighty-five percent. Nine interviews were conducted with three Helena biologists and six field biologists. Data will be analyzed in the following chapter.

Notes

¹Interview with Pat Graham, Chief, Fish, Wildlife and Parks Department, Helena, Montana, 2 September 1986.

²Ted Schwinden, Governor of Montana, State of the State Message, presented to the Forty-Seventh Legislature and to the people of Montana, January 9, 1981.

³Montana Governor's Office, Governor's Council on Management Staff Report (July 1983), p. 12.

⁴Graham interview, op. cit.

⁵Noel M. Tichy, Managing Strategic Change: Technical, Political, and Cultural Dynamics, Wiley Series on Organizational Assessment and Change (New York: John Wiley and Sons, 1983), p. 9.

⁶Ibid., p. 9.

⁷Benjamin Schneider, "Organizational Behavior," Annual Review of Psychology 36 (1985): 596; Michael Pacanowsky and Nick O'Donnell-Trujillo, "Communication and Organizational Culture," Western Journal of Speech Communication 46 (Spring 1982): 127.

⁸Ibid., Pacanowsky and O'Donnell-Trujillo.

⁹Terrance L. Albrecht and Vickie A. Ropp, "The Study of Network Structuring in Organizations through the Use of Method Triangulation," Western Journal of Speech Communication 46 (Spring 1982): 162.

¹⁰Norman K. Denzin, The Research Act, 2nd ed. (New York: McGraw-Hill, 1978), cited by Todd D. Jick, "Mixing Qualitative and Quantitative Methods: Triangulation in Action," Administrative Science Quarterly 24 (December 1979): 602.

¹¹Ronald M. Weiers, Marketing Research (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1984), pp. 167-168.

¹²Raymond L. Falcione and Elyse A. Kaplan, "Organizational Climate, Communication, and Culture," Communication Yearbook 8 (Beverly Hills, CA: Sage Publications, 1984), p. 303.

¹³James DiBerardinis, "The Use of Triangulation in Organizational Consultation," paper presented to the Western Speech Communication Association Convention, Tucson, AZ, February 16, 1986, p. 1.

¹⁴Ibid., p. 8.

¹⁵Don Faules, "The Use of Multi-Methods in the Organizational Setting," Western Journal of Speech Communication 46 (Spring 1982): 150-151.

¹⁶William G. Dyer, Team Building: Issues and Alternatives (Reading, MA: Addison-Wesley Publishing Co., 1977), pp. 36-40.

¹⁷Faules, op. cit., p. 151.

¹⁸DiBerardinis, op. cit., p. 4.

¹⁹Thomas J. Peters and Robert H. Waterman, Jr., In Search of Excellence: Lessons from America's Best-Run Companies (New York: Harper and Row, 1982), p. 26.

²⁰John Naisbitt and Patricia Aburdene, Reinventing the Corporation (New York: Warner Books Inc., 1985), p. 63.

CHAPTER IV

RESEARCH RESULTS

This chapter examines the results of the survey and interviews. Analysis focuses on the problem areas identified through each method. Problems uncovered using data from the survey and the interview will be converged to provide convergent validity. Convergence of the two methods is the basis for problem definition.

Survey Results

Thirty-three surveys were sent out with a return rate of 85 percent. Using data obtained through the survey, frequency distributions, scattergrams, and correlations between variables were calculated. The frequency distributions and correlations are reported here.

Frequency of response to the survey categories of "Low Evidence," "Some Evidence," and "High Evidence" focuses the definition of the problem to certain areas. Table 1 represents the distribution of responses to the Team Building Checklist.

As Table 1 reveals, the Fisheries Division is experiencing a number of problems. Problems were considered significant in areas where the survey results showed 45 percent or more of the respondents felt there was "High Evidence" or "Low Evidence" that a problem existed. Problem areas where 45 percent or more of the respondents felt there was "High Evidence" include the following: (1) grievances or complaints within

the work unit (58 percent), (2) decisions made that people do not understand or agree with (54 percent), (3) people feel that good work is not recognized or rewarded (53 percent), and (4) confusion about assignments or unclear relationships between people (47 percent).

Table 1. Distribution of Responses to the Team Building Checklist by Survey Categories.

Variable	Survey Choices (%)*				
	Low Evidence	Some Evidence			High Evidence
	1	2	3	4	5
Loss of Production	18	25	39	11	7
Grievances	4	19	19	46	12
Conflict	11	29	36	18	7
Assignment	11	14	29	29	18
Goals	22	26	19	22	11
Apathy	18	50	21	7	4
Innovation/Risk	11	26	22	22	19
Staff Meeting	7	14	43	25	11
Boss Problems	11	43	29	11	7
Poor Communication	0	32	29	29	11
Low Trust	14	29	25	25	7
Decisions	8	12	27	39	15
Rewards	0	14	32	39	14
Team Effort	11	22	30	33	4

*Because percentages were rounded, some rows do not total 100%.

Survey results showed that certain areas were significant due to the response level in the "Low Evidence" category. Sixty-eight percent of the respondents felt there was "Low Evidence" of apathy or general lack of interest or involvement of unit members; 54 percent of the

respondents said there was "Low Evidence" of problems in working with the boss. Lack of goals, or low commitment to goals was identified by 48 percent of the respondents at the "Low Evidence" level.

Associations

In order to explore all facets of the problem discussed in this research, tests of correlation were run on the Team Building Checklist variables. Two statistical tests were used to measure the strength of association: Kendall's Tau B and Pearson's R. Responses to Likert attitude statements, like the ones on the Team Building Checklist, are routinely treated as interval quality data.¹ However, because the data obtained by the Team Building Checklist are actually ordinal quality data, it was deemed scientifically appropriate to observe an ordinal test of association (Kendall's Tau B) along with an interval test of association (Pearson's R).

The statistics used on survey data measure association; they are not intended to provide information regarding causal relationships. It is important for the reader to keep this in mind as associations are discussed. Because the purpose of this project is one of definition, variables could potentially be measuring the same attitude. Therefore, when associations are identified, a possibility exists that variables simply measure the same attitude using different jargon causing a strong association.

Eighty-eight associations were tested; 33 relationships were found to be significant at the .05 level. Both statistical tests had similar outcomes regarding the strength of association. The association

reported in the following narrative focus only on significant "High" or "Low Evidence" areas. For a complete table of all associations reported by Kendall's Tau B and Pearson's R, refer to Appendix B.

High Evidence Associations

Four variables were identified as significant due to their common occurrence in the high evidence column of the Team Building Checklist. The variables include: (1) grievances or complaints within the work unit, (2) decisions made that people do not understand or agree with, (3) people feel that good work is not rewarded, and (4) confusion about assignments or unclear relationships between people. The associated variables are reported in the following narrative by their strength of association, i.e., the first variable reported has the strongest association to the significant variable. All associations to the "High Evidence" significant variables along with their correlation coefficients can be found in Appendix C.

The variable of grievances or complaints within the work unit is strongly associated to seven of the remaining thirteen variables. The seven include: (1) lack of trust between boss and member or between members, (2) apathy or general lack of interest or involvement of unit members, (3) conflicts or hostility between unit members, (4) decisions made that people do not understand or agree with, (5) problems in working with the boss, (6) ineffective staff meetings, and (7) people feel that good work is not recognized or rewarded.

The variable concerning decisions made that people do not understand or agree with is strongly associated to six variables. The

six include: (1) lack of clear goals, or low commitment to goals, (2) grievances or complaints within the work unit, (3) people are not encouraged to work together in better team effort, (4) conflicts or hostility between unit members, (5) loss of production or work-unit output, and (6) poor communications: people afraid to speak up, not listening to each other, or not talking together.

The variable concerning rewards, stating that people feel that good work is not recognized or rewarded, is strongly associated with three variables. The three include: (1) ineffective staff meetings, (2) apathy or general lack of interest or involvement of unit members, and (3) grievances or complaints within the work unit.

The variable of confusion about assignments or unclear relationships between people showed strong associations with two variables: (1) conflict or hostility between unit members, and (2) people are not encouraged to work together in better team effort.

Low Evidence Variables

Three variables were identified as significant due to the high response rate in the "Low Evidence" category on the Team Building Checklist. The three variables deal with apathy, problems with the boss, and clarity of goals. The following narrative lists associations, by strength, of the three variables. All associations to the "Low Evidence" significant variables along with their correlation coefficients can be found in Appendix D.

The variable concerning apathy or general lack of interest or involvement of unit members is associated with eight variables. The

eight include: (1) lack of trust between boss and member or between members, (2) grievances or complaints within the work unit, (3) lack of innovation, risk taking, imagination, or taking initiative, (4) poor communications: people afraid to speak up, not listening to each other, or not talking together, (5) conflicts or hostility between unit members, (6) people feel that good work is not recognized or rewarded, (7) lack of clear goals, or low commitment to goals, and (8) loss of production or work-unit output.

The variable of problems in working with the boss is associated with four variables. They include: (1) lack of trust between boss and member or between members, (2) ineffective staff meetings, (3) grievances or complaints within the work unit, and (4) conflicts or hostility between unit members.

The variable concerning lack of clear goals, or low commitment to goals is associated with four variables. They include: (1) people are not encouraged to work together in better team effort, (2) decisions made that people do not understand or agree with, (3) lack of innovation, risk taking, imagination, or taking initiative, and (4) apathy or general lack of interest or involvement of unit members.

The associations given above will be used in convergence of the data to describe the problems the Fisheries Division faces. Prior to that comes a discussion of the interviews used to gather qualitative data.

Interview Results

Nine interviews were conducted consisting of three biologists from the state office and six from regional offices. (The interviews were divided between the field and state offices in proportion to the number of biologists in each.) The interviews provide descriptions of organizational problems and norms. Norms are "taken-for-granted assumptions that affect the way members of the organization react to situations within the organization."² An example presented previously is the norm espoused by IBM in their slogan, "IBM means service." A problem, on the other hand, is a dysfunction in the organization and is more easily pinpointed. For example, antiquated machinery would be considered a problem. Employees can identify problems but often react to norms without being aware of their existence. Dysfunctional norms can lead to problems in the organization; norms and problems are not always easily distinguished from one another.

Table 2 lists problems and norms in the Fisheries Division which were uncovered during the interview sessions. The number of subjects interviewed who commented on the problem or norm during their interviews is recorded in the frequency column.

Only those problems and norms that were expressed more than four times were reported. A more complete list of the problems and norms with employee comments recorded during the interviews is reported in Appendix E. Comments which did not appear more than once are compiled at the end of Appendix E and make up a section entitled "Other Comments."

Table 2. Fisheries Division Problems and Norms Identified in Interviews.

Problem/Norm Statements	Frequency
<u>Problem Statements:</u>	
(1) Distrust between the state and field offices	7
(2) Lack of leadership	5
<u>Norm Statements:</u>	
(1) High level of commitment/large workload/rewards	9
(2) The central office is indecisive	4

Seven interviewees discussed the lack of trust between the Helena and field offices. Two biologists felt part of the problem was due to the perception that Helena was entrenched in "politics."

Five interviewees said a problem existed with the Division's leadership. Comments centered around the lack of leadership in the Division. Two respondents felt leadership was unclear and expressed confusion about the hierarchy and their superiors.

Division employees are over-committed, are expected to take on a large workload, and are rewarded inadequately according to nine interviewees. A norm exists in the Division to keep the level of commitment high. This is not a negative norm. However, the level of commitment combined with the feeling that rewards are inadequate, expressed by the norm "don't expect to be rewarded," creates a negative atmosphere.

A norm of the Division, according to four biologists, is that the central office is indecisive. Clear statewide goals are not evident in

the Division according to one respondent. The state has a difficult time making decisions according to another biologist.

Lack of leadership and distrust between the state and field offices make up the problems of the Fisheries Division. The norms of the Division include: high level of commitment along with a large amount of work and inadequate rewards, and indecisiveness at the central office level. These problems and norms will be used in the convergence of data to gain convergent validity.

Convergence

In order to converge the survey and interview, data variables from the survey were categorized using the problems and norms identified in the interviews. Variables were determined to fall into certain problem and norm areas because of their apparent relationship to the problem or norm. For example, the norm that is reflected in inadequate rewards is clearly related to item number 13 on the Team Building Checklist which asks for the evidence level of the statement "People feel that good work is not recognized or rewarded." This concept applies to the categorization of other survey variables to other norms and values as well.

After variables were categorized, the frequency rate and associations were analyzed to determine whether they were significant to convergence. Response choices where "High Evidence" had a cumulative total above 45 percent were determined to be significant. Forty-five percent was selected as a significant cut-off point because it was determined that if over 40 percent of respondents felt there was "High Evidence" of a problem, the problem was serious and should be converged

with similar results in the qualitative interviews. Associations between variables that were determined to be significant were then examined.

Measures of association were tested for two reasons: to enhance detailed description of the problem, and to show interrelationships of variables to make an organizational change easier for the Fisheries Division. For example, if the Division knows that the variable of grievance strongly correlates with the variables of low trust, they can adapt organizational change to meet both needs simultaneously instead of trying to solve one problem and ignore the other.

Distrust Between the State and Field Offices

Distrust between field and state offices is a problem identified in the interviews that was determined to be related to: (1) grievances or complaints within the work unit, and (2) decisions made that people do not understand or agree with. The two variables share associations with the variable of conflict or hostility between unit members as well as being moderately associated to each other. The variable of grievances is also related to low trust.

The problem of distrust is most clearly defined using the qualitative data. Field biologists exhibit an attitude that the central office does not understand field work. Helena is seen as a political arena that has little contact with the field. The problem of distrust is validated by both methods of data collection and can be described by the survey data as a cause of grievances, misunderstood decisions, and conflicts or hostility between unit members.

Lack of Leadership

Lack of leadership is a problem identified through the interviews and was determined to be related to: (1) grievances or complaints within the work unit, (2) confusion about assignments or unclear relationships between people, and (3) decisions made that people do not understand or agree with. The association these variables share is with the variable of conflict or hostility between unit members.

The problem regarding leadership exists within the Division. It appears to be a problem centered around unclear relationships and confusion based on an unclear chain of command, i.e., who answers to whom?

High Level of Commitment/Large Workload/Inadequate Rewards

The norm espoused in "high level of commitment/large workload/inadequate rewards" was determined to be related to: (1) apathy or general lack of interest or involvement of unit members, (2) lack of clear goals or low commitment to goals, and (3) people feel that good work is not recognized or rewarded. (Apathy and goals/commitment are both significant because of their low evidence rating. Inadequate rewards is significant because of its high evidence rating.)

The variables of apathy and goals/commitment are associated to each other. The variables indicate there is a high level of commitment as well as a low level of apathy. People care about their work and give 110 percent, according to the interviews. This norm is positive; however, the characteristic of inadequate rewards turns the norm into a negative one.

Biologists expressed a problem with the amount of rewards they receive, both in the survey and the interviews. "Rewards are not in line with administrative work," according to one biologist. Others felt the same. All three characteristics of this norm -- high commitment, large workload, and inadequate rewards -- are closely linked, making this a complex norm.

The Central Office Is Indecisive

The norm represented by the statement "the central office is indecisive" was determined to be related to one variable -- decisions made that people do not understand or agree with. This variable is associated with six variables. Those that best describe this norm are: (1) people are not encouraged to work together in better team effort, (2) grievances or complaints within the work unit, and (3) poor communications: people afraid to speak up, not listening to each other, or not talking together.

The norm "the central office is indecisive" presents itself through the variable of decisions and its associations. The qualitative data shows that the field would like stronger policy statements and statewide planning from the central office. The norm is best defined through evidence of unclear decisions and planning as well as the inability to express policy to the field.

Summary

This chapter examined the results of the survey and the interview. In order to arrive at the point of convergent validity, survey

and interview results were analyzed. Significant variables were identified by the percentage of response in the "High Evidence" or "Low Evidence" categories. Significant survey variables were then divided into categories because of their relationship to the problem or norm being discussed. Percentage of distribution and measures of association for variables related to the problems and norms were then identified and examined. Once the results of both the surveys and interviews led to the same conclusions, convergence occurred.

Significant areas of concern, identified using data from the survey and the interviews, were converged to provide convergent validity. Convergent validity identified two problem areas and two norms. The problems are: (1) lack of leadership, and (2) distrust between the state and field offices. The norms are: (1) "high level of commitment/ large workload/inadequate rewards," and (2) "the central office is indecisive."

Notes

¹Ronald M. Weiers, Marketing Research (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1984), p. 309.

²Edgar H. Schein, "What You Need to Know About Organizational Culture," Training and Development Journal 40 (1986): 30-31; Linda Smircich, "Concepts of Culture and Organizational Analysis," Administrative Science Quarterly 28 (1983): 355.

CHAPTER V

SUMMARY

The purpose of this research was to investigate, diagnose, and define problems in the Fisheries Division so that a planned organizational change could occur.

The method of problem diagnosis used in this research, one that views the organization in holistic terms, is recommended by Tichy -- examining technical, political, and cultural aspects of the organization.¹ The organization's history was reviewed in order to identify patterns of change in the Division. Analysis of the technical, political, and cultural areas revealed that the technical side of the organization was healthy. The political area has gone through recent changes which seriously affected the organization's culture. Therefore, organizational culture was the focal point of diagnosis while certain aspects of the political environment were also analyzed.

A highly recommended method of research for organizational culture is that of qualitative research. However, some caveats exist in the gathering of qualitative data. Therefore, to enhance research validity, two methods were used: an interview and a survey; this is known as triangulation or multi-methods. By use of two methods and convergence of significant results, convergent validity is achieved. Triangulation also provides the opportunity to view the organization from a general perspective via the survey and an in-depth perspective via the

interview. In this manner the research is complete without the risk of being too general or missing any important details.

The survey used in this study was the Team Building Checklist. It was chosen because of its general nature as well as its ability to measure certain aspects of an organization's cultural and political characteristics.

Surveys were sent out in April 1986 and returned May 15. Thirty-three biologists were selected to receive the surveys. Twenty-eight surveys were returned, for a return rate of 85 percent. Nine interviews were conducted with three Helena biologists and six field biologists. Interviews were conducted in May 1986.

Significant areas of concern were identified by survey results. If 45 percent or more of the respondents felt there was "High Evidence" or "Low Evidence" of a certain variable, that variable was considered significant. Four variables were significant in the "High Evidence" range while three variables were significant in the "Low Evidence" range. There was "High Evidence" of grievances, unclear decisions, lack of recognition for good work, and confusion about assignments. There was "Low Evidence" of apathy, problems in working with the boss, and lack of goals or low commitment.

In order to explore all facets of the problem discussed in this research, tests of correlation were run on the Team Building Checklist variables. Two statistical tests were used to measure the strength of association: Kendall's Tau B and Pearson's R.

The interviews provided a description of organizational problems and norms. Problems identified in the interviews centered around the

lack of trust between the central office and the field office and lack of leadership which affected biologists. A norm expressed in the interviews focused on the high commitment level expected of Fisheries Division employees along with a large workload and inadequate rewards. Another norm prevalent in the interviews was that the central office, i.e., the leadership in Helena, is indecisive.

Once the results of the survey and the interviews were examined, significant findings were analyzed and converged. Survey variables were divided into categories because of their relationship to a certain problem or norm. Measures of association for variables related to the problems and norms were then identified and examined. If the results of the surveys and interviews led to the same conclusions, convergent validity occurred.

This research identified two problem areas and two norms. The problems are: (1) lack of leadership, and (2) distrust between the state and field offices. The norms are: (1) "high level of commitment combined with a large workload and inadequate rewards," and (2) "the central office is indecisive." Having identified the problems and norms, the Division can use the information to facilitate change.

Notes

¹Noel M. Tichy, Managing Strategic Change: Technical, Political, and Cultural Dynamics, Wiley Series on Organizational Assessment and Change (New York: John Wiley and Sons, 1983).

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APPENDICES

APPENDIX A

TEAM-BUILDING CHECKLIST

TEAM-BUILDING CHECKLIST

Problem Identification: To what extent is there evidence of the following problems in your work unit?

	<u>Low Evidence</u>	<u>Some Evidence</u>		<u>High Evidence</u>	
1. Loss of production or work-unit output.	1	2	3	4	5
2. Grievances or complaints within the work unit.	1	2	3	4	5
3. Conflicts or hostility between unit members.	1	2	3	4	5
4. Confusion about assignments or unclear relationships between people.	1	2	3	4	5
5. Lack of clear goals, or low commitment to goals.	1	2	3	4	5
6. Apathy or general lack of interest or involvement of unit members.	1	2	3	4	5
7. Lack of innovation, risk taking, imagination, or taking initiative.	1	2	3	4	5
8. Ineffective staff meetings.	1	2	3	4	5
9. Problems in working with the boss.	1	2	3	4	5
10. Poor communications: people afraid to speak up, not listening to each other, or not talking together.	1	2	3	4	5
11. Lack of trust between boss and member or between members.	1	2	3	4	5
12. Decisions made that people do not understand or agree with.	1	2	3	4	5
13. People feel that good work is not recognized or rewarded.	1	2	3	4	5
14. People are not encouraged to work together in better team effort.	1	2	3	4	5

APPENDIX B

MATRICES OF VARIABLE ASSOCIATIONS USING
THE KENDALL TAU B STATISTIC AND
THE PEARSON'S R STATISTIC

Table 3. Matrix of Variable Associations Using the Kendall Tau B Statistic.

Variable*	Team-Building Checklist Variables													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1						.28						.31		
2			.42			.46		.40	.40		.47	.41	.29	
3		.42		.47		.32			.34		.49	.32		
4			.47											.33
5						.29	.30					.41		.49
6	.28	.46	.32		.29		.39			.35	.47		.32	
7					.30	.39		.37						.35
8		.40					.37		.49		.40		.38	.31
9		.40	.34					.49			.64			
10						.35					.30	.30		
11		.47	.49			.47		.40	.64	.30				
12	.31	.41	.32		.41					.30				.35
13		.29				.32		.38						
14				.33	.49		.35	.31				.35		

*Variable Numbers:

- 1 = Loss of production or work-unit output.
- 2 = Grievances or complaints within the work unit.
- 3 = Conflicts of hostility between unit members.
- 4 = Confusion about assignments or unclear relationships between people.
- 5 = Lack of clear goals, or low commitment to goals.
- 6 = Apathy or general lack of interest or involvement of unit members.
- 7 = Lack of innovation, risk taking, imagination, or taking initiative.
- 8 = Ineffective staff meetings.
- 9 = Problems in working with the boss.
- 10 = Poor communications: people afraid to speak up, not listening to each other, or not talking together.
- 11 = Lack of trust between boss and member or between members.
- 12 = Decisions made that people do not understand or agree with.
- 13 = People feel that good work is not recognized or rewarded.
- 14 = People are not encouraged to work together in better team effort.

Table 4. Matrix of Variable Associations Using the Pearson's R Statistic.

Variable*	Team-Building Checklist Variables													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1						.36						.20		
2			.48			.53		.44	.48		.55	.39	.34	
3		.48		.53		.47			.42		.63	.39		
4			.53											.37
5						.37	.35				.48			.55
6	.36	.53	.47		.37		.49			.47	.59		.44	
7					.35	.49		.50						.43
8		.44					.50		.59		.47		.40	.46
9		.48	.42					.59			.70			
10						.47					.39	.35		
11		.55	.63			.59		.47	.70	.39				
12	.20	.39	.39		.48					.35				.41
13		.34				.44		.40						
14				.37	.55		.43	.46				.41		

*Variable Numbers:

- 1 = Loss of production or work-unit output.
- 2 = Grievances or complaints within the work unit.
- 3 = Conflicts of hostility between unit members.
- 4 = Confusion about assignments or unclear relationships between people.
- 5 = Lack of clear goals, or low commitment to goals.
- 6 = Apathy or general lack of interest or involvement of unit members.
- 7 = Lack of innovation, risk taking, imagination, or taking initiative.
- 8 = Ineffective staff meetings.
- 9 = Problems in working with the boss.
- 10 = Poor communications: people afraid to speak up, not listening to each other, or not talking together.
- 11 = Lack of trust between boss and member or between members.
- 12 = Decisions made that people do not understand or agree with.
- 13 = People feel that good work is not recognized or rewarded.
- 14 = People are not encouraged to work together in better team effort.

APPENDIX C

KENDALL'S TAU B AND PEARSON'S R
MEASURES OF ASSOCIATION BETWEEN SURVEY VARIABLES
AND VARIABLES 2, 4, 12 AND 13

Table 5. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Grievances or Complaints Within the Work Unit.

Variables Associated with Grievances*	Statistical Test	Correlation Coefficient
Grievances by Low Trust	Kendall's Tau B Pearson's R	.47 .55
Grievances by Apathy	Kendall's Tau B Pearson's R	.46 .53
Grievances by Conflicts	Kendall's Tau B Pearson's R	.42 .48
Grievances by Decisions	Kendall's Tau B Pearson's R	.41 .39
Grievances by Boss Problems	Kendall's Tau B Pearson's R	.40 .48
Grievances by Staff Meetings	Kendall's Tau B Pearson's R	.40 .44
Grievances by Rewards	Kendall's Tau B Pearson's R	.39 .34

*All reported associations are significant at the .05 level.

Table 6. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Decisions Made that People Do Not Understand or Agree With.

Variables Associated with Decisions*	Statistical Test	Correlation Coefficient
Decisions by Goals	Kendall's Tau B Pearson's R	.41 .48
Decisions by Grievances	Kendall's Tau B Pearson's R	.41 .39
Decisions by Team Building	Kendall's Tau B Pearson's R	.35 .41
Decisions by Conflicts	Kendall's Tau B Pearson's R	.32 .39
Decisions by Loss of Production	Kendall's Tau B Pearson's R	.31 .20
Decisions by Poor Communications	Kendall's Tau B Pearson's R	.30 .35

*All reported associations are significant at the .05 level.

Table 7. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence that People Feel that Good Work Is Not Recognized or Rewarded.

Variables Associated with Rewards*	Statistical Test	Correlation Coefficient
Rewards by Staff Meetings	Kendall's Tau B Pearson's R	.38 .40
Rewards by Apathy	Kendall's Tau B Pearson's R	.32 .44
Rewards by Grievances	Kendall's Tau B Pearson's R	.39 .34

*All reported associations are significant at the .05 level.

Table 8. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Confusion About Assignments or Unclear Relationships Between People.

Variables Associated with Confusion About Assignments*	Statistical Test	Correlation Coefficient
Confusion by Conflicts	Kendall's Tau B Pearson's R	.47 .53
Confusion by Team Building	Kendall's Tau B Pearson's R	.33 .37

*All reported associations are significant at the .05 level.

APPENDIX D

KENDALL'S TAU B AND PEARSON'S R
MEASURES OF ASSOCIATION BETWEEN SURVEY VARIABLES
AND VARIABLES 5, 6 AND 9

Table 9. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Apathy or General Lack of Interest or Involvement of Unit Members.

Variables Associated with Apathy*	Statistical Test	Correlation Coefficient
Apathy by Trust	Kendall's Tau B Pearson's R	.47 .59
Apathy by Grievances	Kendall's Tau B Pearson's R	.46 .53
Apathy by Innovation	Kendall's Tau B Pearson's R	.39 .49
Apathy by Poor Communications	Kendall's Tau B Pearson's R	.35 .47
Apathy by Conflicts	Kendall's Tau B Pearson's R	.32 .47
Apathy by Rewards	Kendall's Tau B Pearson's R	.32 .44
Apathy by Goals	Kendall's Tau B Pearson's R	.29 .37
Apathy by Loss of Production	Kendall's Tau B Pearson's R	.28 .36

*All reported associations are significant at the .05 level.

Table 10. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Problems in Working with the Boss.

Variables Associated with Boss Problems*	Statistical Test	Correlation Coefficient
Boss Problems by Trust	Kendall's Tau B Pearson's R	.64 .70
Boss Problems by Staff Meetings	Kendall's Tau B Pearson's R	.49 .59
Boss Problems by Grievances	Kendall's Tau B Pearson's R	.40 .48
Boss problems by Conflicts	Kendall's Tau B Pearson's R	.34 .42

*All reported associations are significant at the .05 level.

Table 11. Kendall's Tau B and Pearson's R Measures of Association Between Survey Variables and the Variable Measuring Evidence of Lack of Clear Goals, or Low Commitment to Goals.

Variables Associated with Goals*	Statistical Test	Correlation Coefficient
Goals by Team Building	Kendall's Tau B Pearson's R	.49 .55
Goals by Decisions	Kendall's Tau B Pearson's R	.41 .48
Goals by Innovation	Kendall's Tau B Pearson's R	.30 .35
Goals by Apathy	Kendall's Tau B Pearson's R	.29 .37

*All reported associations are significant at the .05 level.

APPENDIX E

INTERVIEW COMMENTS

INTERVIEW COMMENTS

The following comments were recorded during interviews with Division biologists. Comments have been categorized as problems or norms and given headings to explain the categorization.

PROBLEM: Distrust Between the Field and Helena

- (1) Negative attitude associated with Helena and the politics that go on there.
- (2) Distrust between Helena and field people, e.g., the Biologist Association.
- (3) The field people feel "everything in Helena is screwed up; it's all political." Helena people feel "field people run off in a shotgun approach with no continuity."
- (4) Helena vs. Regions is a we/they relationship. The Division is a bit fractionalized -- "My way is the right way."
- (5) A lot of improvement needs to occur in communication between Helena and the field.
- (6) Low trust exists between Helena and the field.
- (7) People in Helena follow their own interest and disregard the field. There should be more contact between Helena and the regions.
- (8) Helena is out of touch and not valid.
- (9) Helena fisheries people have no field experience. Helena has unrealistic perceptions of field problems.

PROBLEM: Lack of Leadership

- (1) Void in leadership.
- (2) Lack of direction from the top; we need help from the top with more involvement.
- (3) Field people feel that the staff/managers don't know what they are doing but the field people won't take manager jobs so the managers lack experience.

- (4) Regional Supervisor positions are not taken seriously; regional supervisors actually do less than others.
- (5) Confusion exists regarding supervisors -- Who answers to whom?
- (6) A problem exists because there is no clear chain of command; two supervisors exist -- regional vs. divisional. The tendency is to respond to the closest person.

NORM: High Level of Commitment/Large Workload/Inadequate Rewards

- (1) "Balls to the wall," over-commitment and overworked.
- (2) Put in a lot more time and effort; be committed.
- (3) Getting people to work is easy; the level of commitment is high.
- (4) High commitment and extra time.
- (5) 110% is what you give -- high commitment.
- (6) Over-committed -- high expectations.
- (7) Don't expect any reward or thanks. I do it for me.
- (8) Don't expect to be rewarded for effort.
- (9) Rewards are not in line with administrative work.

NORM: The Central Office Is Indecisive

- (1) State won't do anything for the employee.
- (2) We don't need direction -- we need policy from the top.
- (3) State can't make decisions.
- (4) Lack of planning. Need clear statewide goals and monitors. Need clear job division in Helena.

OTHER COMMENTS:

- (1) No identity as a unit; there is a lack of teamwork.
- (2) Contract people (research, soft money) vs. management (field people, resource) -- perceptual division exists between them.

- (3) Lack of enthusiasm, not as much as in the past.
- (4) Field people not applying for staff jobs in Helena.
- (5) Self-motivation is a norm in the Division.
- (6) No hard and fast rules.
- (7) A norm exists for employees to "Be cautious, don't believe it until it's written in stone."
- (8) "Cover your ass!"
- (9) A division exists between regions; there is resentment against certain regions.
- (10) A better description of duties is necessary.
- (11) Regions are independent units.
- (12) Bureaucratic overload -- we have built hierarchies -- state department heads, regional supervisors, etc. "Too many levels."
- (13) Technical writing is poor from field.
- (14) Regional pay scales are the same, yet supervisor workloads vary.
- (15) The field biologist job has changed significantly in the past fifteen years. Our job is to talk to people. Communication and information part of the job has changed much more rapidly than the biological aspect.
- (16) The Division does a bad job of selling its services. The public doesn't know the Division's function.
- (17) Public information/relations could improve. The public understanding of what we are doing and the different ways could improve.
- (18) There is no technological help in habitat protection.
- (19) There should be more effort on technical training.