The Natural Resources Management Branch

THE VISITOR ASSISTANCE SURVEY

An Evaluation of Safety at Corps Recreational Projects

U.S. Army Corps of Engineers Institute for Water Resources

June 1996 IWR REPORT 96-R-11

"It is the policy of the Corps of Engineers to provide safe and healthful recreation opportunities while protecting and enhancing project resources. The protection of facilities or the enforcement of rules will always be secondary to the safety of Corps personnel and visitors. Resource managers and rangers will strive to be visible to the public, primarily to help and assist them, and secondarily, to enforce 36 CFR Chapter III, Part 327 (Title 36). In no case will this enforcement portray an aggressive law enforcement image..."

Regulation No. 1130-2-420, #5, "Project Operation,
VISITOR ASSISTANCE PROGRAM", November 1, 1992

PREFACE

This report was prepared for the Executive Office, Natural Resources Management Branch (NRMB) of the U.S. Army Corps of Engineers (COE). Supervision was provided by Dr. Mark Dunning of the COE, Water Resources Support Center (WRSC), Institute for Water Resources (IWR), Program Analysis Division (PAD). Mr. Darrell Lewis, Chief of NRMB (CECW-ON), Mr. Dave Wahus and Mr. Steve Austin of NRMB were technical monitors for Headquarters, COE.

Ms. Kenya Covington, Social Scientist (CEWRC-IWR-A), was the principal author while serving under a temporary appointment. Mr. Richard Whittington, Environmental Planner (CEWRC-IWR-A), contributed to questionnaire design and write-ups of Drafts I and II. Ms. Karla Allred, Co-op student from George Washington University completed a content analysis on several open-ended questions. Mr. Steve Austin provided critical assistance in editing the questionnaire, and continuous assistance in the completion of the study.

The authors are grateful to the following individuals for reviewing the preliminary drafts of this report and providing valuable comments and suggestions for improvement: Steve Austin (CECW-ON), Mark Dunning, Ph.D. and John Singley, Ph.D. (CEWRC-IWR-A), William Hansen (CEWRC-IWR-R), and Roger Hamilton (CEWES-EN-R).

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EXECUTIVE SUMMARY

Introduction

The U.S. Army Corps of Engineers (COE) lakes, dams and reservoirs, and other projects, today are among the most heavily visited public recreation sites in the country. It is estimated that nationally Corps projects receive more than 400 million visitor days annually. The Visitor Assistance Program that currently oversees visitor use of Corps projects was first conceived in 1970 with the implementation of Cumberland Lake pilot program. The major objective of this program is to ensure that visitors to Corps facilities have a safe and enjoyable experience. The program is managed by the Natural Resources Management Branch (NRMB) of the Operations, Construction and Readiness Division of Civil Works (CECW-ON), and employs more than 1,800 personnel who are located on-site at Corps projects to provide visitor assistance services.

As public visitation pressure has grown at Corps facilities, the NRMB has become increasingly concerned about public safety and the safety of the Corps NRMB personnel who administer the Visitor Assistance Program on-site. The issue of safety was most recently investigated in Southwestern Division (SWD) where a survey was administered to the SWD NRMB workforce. This survey provided information on the perceptions of the SWD workforce; however, NRMB concluded that a broader look was needed to arrive at nationally representative conclusions. As a result, NRMB requested that the Institute for Water Resources (IWR) conduct a national survey of the NRMB workforce on the issue of safety.

The purpose of this study is to shed some light on safety concerns voiced by NRMB personnel. IWR created and administered the questionnaire to elicit representative data upon which NRMB management could make decisions.

Survey Objectives

The Visitor Assistance Survey had six research objectives:

1. To identify NRMB personnel perceptions about safety at Corps projects;

2. To identify the general perceptions of NRMB personnel about the Visitor Assistance Program at Corps projects as the perceptions relate to safety;

3. To obtain the opinions of NRMB personnel on the importance and sufficiency of various equipment as the opinions relate to safety;

4. To obtain NRMB personnel views on the adequacy of law enforcement at Corps projects as the views relate to safety;

5. To obtain NRMB personnel views on important skills and various training courses as the

views relate to safety;

6. To seek opinions from NRMB personnel on management concerns and the adequacy of support resources as the opinions relate to safety.

Population and Survey Administration

The population surveyed in this study included NRMB personnel, except administrative, clerical, and maintenance staff. The survey population mainly consisted of rangers, managers, and other professional personnel such as: outdoor recreation planners, environmental protection specialists, foresters, etc. Approximately 1,893 individuals made up this population at the time of survey. Surveys were mailed directly to each individual using a mailing list provided by NRMB. A cover letter was included which explained the purpose of the survey and a guarantee of anonymity. Participants who completed the survey were asked to return the surveys directly to IWR for data entry. A week after the initial mailing, a follow-up post card was mailed out reminding participants to complete and return their surveys if they had not already done so. A total of 1,267 surveys were returned for a response rate of 67 percent. This is a relatively high response rate for a mail out survey and suggests a high level of interest among NRMB personnel on the topic.

Questionnaire

The instrument used for this study was designed to address the research objectives previously identified. The survey consisted mostly of closed-ended questions, but open-ended questions were also asked. The questionnaire was developed in consultation with IWR and NRMB staff. Appendix A contains a copy of the questionnaire and Appendix B shows the frequency of responses for each question.

Description of Data

An overview of the biographical responses to the survey showed that 68 percent of respondents worked as rangers, 22 percent were employed as managers, and 10 percent held positions in professional areas stated above (see Figure 1[1]). The grade levels of respondents ranged from GS-4 through SES, with GS-9 through GS-11 being the most common grade levels at 60 percent. Overall, 83 percent of the respondents were male and 17 percent female. Most of the respondents (38%) were within the 36-45 year age range (see Figure 2). The vast majority of respondents of this survey were Caucasian (92%). Of the remaining groups the highest representations were African Americans (2.5%), Native Americans (2.3%), Hispanics (0.7%), Asians (0.3%), and others (2.0%) (see Figure 3). Nationwide, 90 percent of the respondents had citation authority; that is, authority given to rangers and natural resource specialists allowing administration of tickets signifying violation(s) of Corps projects' rules and regulations.

[1]Tables and Figures referenced in this Executive Summary appear in the main report.

Findings

PERCEPTIONS OF SAFETY (Chapter 2)

Managers, rangers, and professional employment categories show some differences in perceptions of their personal safety. Managers overwhelmingly perceived their safety as good (76%), while only half (51%) of rangers reported safety as good. A grand total of 49 percent of rangers (402 respondents) characterized their safety as fair to poor, once again in contrast to 25 percent of managers.

Besides perceived safety at Corps projects, the perception of change in personal safety was examined. The three possible levels used to describe perceived change in safety were "increasing," "decreasing," and "staying the same." Managers typically described their safety as "staying the same." Professional personnel revealed similar perceptions with 56 percent indicating their safety as "staying the same." On the other hand, rangers clearly characterize their safety differently. Rangers typically described their safety as "decreasing" with 50 percent reporting this direction of change.

Within the last three years, of 813 rangers that responded, 507 (62%) rangers indicated that they experienced between 1-10 incidents of verbal abuse (see Figure 6). Although, physical threats were perpetrated against rangers at a less frequent rate than verbal abuse, 373 respondents (46%) reported between 1-10 incidents of physical threats. Of the 813 rangers responding, 94 (12%) said that they had been physically assaulted at least once over the last three years.

In the last three years, 430 rangers (53%) witnessed between 1 and 10 incidents where a visitor verbally or physically threatened another visitor (see Figure 9). Almost 200 rangers (23%) say that they have witnessed more than 20 incidents in which visitors displayed some "hostile behavior" toward another visitor. A factor that many project staff considered a main contributor to "hostile behavior" was alcohol use.

In search of a more complete picture of the impact of alcohol, we asked: "What is the average number of alcohol-related incidents that you have been directly involved with at your project within the last three years?" In the last three years, out of 1,138 respondents, 482 (42%) answered that they had been directly involved with an alcohol-related incident at least 1 to 10 times (see Figure 10). Almost 30 percent revealed that they were directly involved with alcohol-related incidents more than 20 times in the last three years (see Figure 10).

Views about whether alcohol should be allowed or prohibited were solicited. Forty percent of the respondents disagreed that "alcohol should be allowed at Corps projects," (see Figure 11). There was also a second statement, "prohibition of alcohol at Corps projects would increase overall safety," the popular response was overwhelming (see Figure 12), of 1,248 project staff, 72 percent agreed with the statement (893 respondents).

PERCEPTIONS OF VISITOR ASSISTANCE (Chapter 3)

The perceived public image of rangers as seen by survey participants is a dual role of law enforcement officer (badge toting authority figures) and visitor assistant (service oriented and helpful to visitors) with little distinction between the two. As shown in Figure 13, responses were low at opposite poles of the scale indicating "John Law" (law enforcement personality) and "Good Guys" (visitor assistance personality). Responses fell most frequently in the middle of the scale, therefore signaling ambiguity in how Corps personnel believe visitors view them.

Many respondents reported they were aware of a Visitor Assistance Program at their project. Overall, of 1,144 responses to this question, 90 percent said they were aware, 5 percent said they were "uncertain," and 5 percent said "no" they were not aware of a Visitor Assistance Program (see Figure 15). Although the Public Relations Plan is a component of the Visitor Assistance Program, fewer respondents were aware of such a plan. Only 52 percent reported knowledge of a Public Relations Plan, and while a very small percentage were unsure whether a Visitor Assistance Plan existed, more persons (26%) were unsure concerning the presence of a Public Relations Plan (see Figure 16).

EQUIPMENT (Chapter 4)

Communication equipment was generally considered important equipment for use on the job by all positions. Managers and rangers responded similarly to the importance of nine different types of communication equipment. Mobile vehicle radios ranked the highest, while law enforcement communication links followed (see Table 10). This equipment is perceived as necessary to carry out daily duties and more important, to fostering safety at Corps projects.

Surveillance equipment is seen as useful to enhance field personnel monitoring capabilities, plus detecting crises at various Corps projects. Specifically, the items are polaroid cameras, 35mm cameras, video cameras, vehicle light bars and alarms. Only two items were considered overwhelmingly important, these were the polaroid cameras and 35mm cameras. Of these items, polaroid cameras appeared most important among managers and rangers (see Table 11).

In this study, personal protection equipment refers to equipment used to protect personnel from potentially life threatening situations during official duty. Of all the protective equipment, overwhelmingly, blood borne pathogen protection was seen as the most important (see Figure 17). Following in importance, as suggested by respondents were mace/pepper spray and bulletproof vests.

The sufficiency of equipment refers to the overall adequacy of the current supply of equipment. Overall, more managers responded that equipment was sufficient. Forty six

percent of the managers responded that equipment supplies were sufficient, while 35 percent stated that it was not (see Figure 21). In contrast, only 30 percent of the ranger population stated that equipment was sufficient, while 48 percent stated that it was not (see Figure 22).

LAW ENFORCEMENT AGREEMENTS (Chapter 5)

Several questions were asked of participants concerning the presence of law enforcement agreements, the adequacy of agreements, and problems encountered contacting law enforcement agencies. Overall, out of 881 responses to the question, "Do you have an agreement at your project?", 78 percent said "yes," 19 percent said "no," and 3 percent were "uncertain." Agreements were perceived to be a combination of very adequate and adequate by 58 percent (see Figure 23). Most respondents considered service provided by law enforcement agencies under the agreements adequate (see Figure 24). In addition, 30 percent of respondents said that they "did have trouble contacting law enforcement authorities" (see Figure 25).

TRAINING (Chapter 6)

Both managers and rangers responded similarly; however, rangers on average felt stronger about specific skills than did managers. The five most perceived important skills as indicated by managers and rangers were communication, public relations, conflict management, title 36 rules and regulations, and water safety (see Table 14). These skills were perceived as important by at least 85 percent of respondents. The lowest ranking skill in importance to respondents was crowd control.

The most basic of the courses, Visitor Assistance Basic, received the most ratings of "F" as compared with the other courses (see Figure 26). Managers rated this course failing more frequently than did rangers and professional personnel. The Advanced Visitor Assistance course appears to tell a different story; most responses were within "B" and "C" ratings. Managers, rangers, and professional personnel felt similarly about the course. The Personal Protection Training course distribution of ratings looks similar to the previous course (see Figure 28), again, most of the responses indicated ratings of "B" and "C."

The Refresher Visitor Assistance Training course rating distribution shows differences in opinions among managers, rangers, and professional project personnel (see Figure 29). Managers most frequently rated this course a "C". Rangers and professional personnel had the greatest number of "A" and "B" ratings for this course. The Visitor Assistance Update course (see Figure 30) responses illustrate that most frequently rangers and professional personnel rated the course a "B", while managers' responses did not cluster in any letter grade.

MANAGEMENT AND RESOURCES
(Chapter 7)

More than 50 percent of all employment groups agreed that higher management was concerned with safety issues, but rangers reported the highest percent (29%) in disagreement (see Figure 34). Nearly 30 percent, (242 rangers) do not believe that higher management is concerned about safety issues that confront Corps projects.

Respondents to the questionnaire perceived supervisors to be more attentive than managers to safety concerns raised by rangers. At least 80 percent of respondents in all three employment categories agreed that supervisors listen (a total of 992 respondents out of 1,215).

Support resources appear most adequate for law enforcement agreements but least adequate for staffing. Responses addressing staffing display very little variance across the three categories of adequacy. Overall, there is not a very strong opinion about the adequacy or inadequacy of staffing support resources.

CONCLUSIONS (Chapter 8)

A significant fraction of rangers consider personal safety to be a problem on the job. Many see the problem as growing worse. Almost two-thirds of the rangers have been verbally abused by visitors in the past three years; more than one in ten has been physically assaulted. Respondents provided their views on how key elements of the Visitor Assistance Program (equipment, law enforcement agreements, training, management, and resources) contribute either positively or negatively to their personal safety and to that of visitors at Corps projects.

Corps personnel generally believe that the public has an unclear image of rangers, seeing them both as law enforcement officials and service oriented visitor assistants. Visitors may not know exactly what role rangers are supposed to play. To manage safety better, visitors should be aware of the limits of a ranger's authority.

Protective equipment perceived as most important was blood borne pathogen protection. The 90's and the results of a rising awareness of diseases transmitted through the blood may be directly related to the popularity of this equipment.

Law enforcement agreements appeared to exist throughout the Corps and the service received because of the agreement appeared mostly adequate. Yet, there were some problems contacting law enforcement 3 out of 10 times. The obvious safety hazard is that during the 3 times when no law enforcement is present, Corps staff and visitors are rendered vulnerable. The agreements need to be implemented as close to 100 percent as possible, and in possible life threatening situations 30 percent of error should be unacceptable.

Training used to equip staff with skills and knowledge that will enable them to take on ranger duties at Corps projects is a major area of concern. Skills perceived as important by staff were: communication, public

relations, conflict management, title 36 rules and regulations, and water safety. Skills such as these are critical to the Visitor Assistance Program and the more thorough the training concerning these skills, the more effective Corps project personnel will be.

Currently, there are five training courses offered to rangers throughout their tenure with the Corps. The worse rated course was the Visitor Assistance Basic Course; better rated courses were Refresher Visitor Assistance, Advanced Visitor Assistance, and Personal Protection Training. The ratings of these courses by project staff, not only shed some light on how well various project staff believe material was covered throughout the course; it also gave a picture of how well the courses trained. Some clear shortcomings exist. Ultimately, the more comprehensive and successful the training, the better staff will be equipped to use their training in unsafe and peculiar situations. Based on rating results of the various courses, the structures of the current courses require revamping.

Concerns about safety and support resources were covered. Both, management and supervisory concerns about safety were examined. Managers were found to be less attentive than supervisors to safety concerns that Corps staff introduced. Management needs to communicate its concern for safety to the workforce more effectively to change this perception.

Corps personnel are faced with potentially dangerous situations from time to time. Some Corps projects inhibit these situations more frequently than others. This study illustrates that visitors and project staff experience verbal abuse, physical threats, and worst yet, physical assaults. Through training, having the appropriate equipment and assistance from the proper agencies, and support of the people they work with, project staff can be better prepared to handle these situations.

Lastly, outside forces that directly or indirectly contribute to abuse and threats of visitors and Corps staff need to be managed differently. Alcohol is a problem. It was considered the number one contributor to “hostile behaviors” by project personnel. A great number believed it should be prohibited at Corps projects. Since the objective is to make Corps projects safer places, then a review of policies on alcohol use is warranted and solutions that will reduce the unsafe situations that visitors and staff have been encountering are essential.

CHAPTER 1

PURPOSE AND OVERVIEW

Introduction

The U.S. Army Corps of Engineers (COE) lakes, dams and reservoirs, and other projects, today are among the most heavily visited public recreation sites in the country. It is estimated that nationally Corps projects receive more than 400 million visitor days annually. The Visitor Assistance Program that currently oversees visitor use of Corps projects was first conceived of in 1970 with the implementation of the Cumberland Lake pilot program. The major objective of this program is to ensure that visitors to Corps facilities have a safe and enjoyable experience. The program is managed by the Natural Resources Management Branch (NRMB) of the Operations, Construction and Readiness Division of Civil Works (CECW-ON), and employs more than 1,800 personnel who are located on-site at Corps projects to provide visitor assistance services.

As public visitation pressure has grown at Corps facilities, the NRMB has become increasingly concerned about public safety and the safety of the Corps NRMB personnel who administer the Visitor Assistance Program on-site. The issue of safety was most recently investigated in Southwestern Division (SWD) where a survey was administered to the SWD NRMB workforce. This survey provided information on the perceptions of the SWD workforce; however, NRMB concluded that a broader look was needed to arrive at nationally representative conclusions. As a result, NRMB requested that the Institute for Water Resources (IWR) conduct a national survey of the NRMB workforce on the issue of safety.

The purpose of this study is to shed some light on safety concerns voiced by NRMB personnel. IWR created and administered the questionnaire to elicit representative data upon which NRMB management could make decisions. The areas of inquiry were:

Ranger training
Field employees' safety
Visitors' safety
Gate attendants' safety
Personal equipment
Communication equipment
Alcohol use
Uniforms
Resources
Handling fees
Reporting incidents
Law enforcement agreements

Survey Objectives

The Visitor Assistance Survey had six research objectives:

1. To identify NRMB personnel perceptions about safety at Corps projects;

2. To identify the general perceptions of NRMB personnel about the Visitor Assistance Program at Corps projects as the perceptions relate to safety;

3. To obtain the opinions of NRMB personnel on the importance and sufficiency of various equipment as the opinions relate to safety;

4. To obtain NRMB personnel views on the adequacy of law enforcement at Corps projects as the views relate to safety;

5. To obtain NRMB personnel views on important skills and various training courses as the views relate to safety;

6. To seek opinions from NRMB personnel on management concerns and the adequacy of support resources as the opinions relate to safety.

The survey sought to address these objectives by obtaining answers to a series of questions about ranger and visitor safety, modification and alcohol use, visitor assistance, personal and communication equipment, law enforcement, training, support resources, opinions on management safety concerns and demographics. Questions for each topic are presented in Appendix C.

Research Methods

Defining Variables

Several variables were identified in this study. Many of the variables were made up of more than one component. The variables are defined below.

Safety

The survey included several sections tailored to address safety issues. Discussed in detail are ranger safety, visitor safety, modifications for gate attendant safety and alcohol. Much of the discussion is based on perceptions from both first hand and second hand experiences.

Ranger safety refers to the well being of NRMB employees while conducting official duties at Corps projects (rangers, managers and other/professional employees). Responses on the characterization of ranger safety and descriptions of their present safety level helped measure safety perceptions. The levels of safety were “increasing,” “decreasing,” and “staying the same.” “Increasing” was defined as, a level of safety that has improved during a respondent’s employment. “Decreasing” was any noticeable decrease in their level of safety during employment, and “staying the same” means that the respondent did not detect any noticeable change in safety during employment.

Hostile behaviors encountered by

rangers were also measured; this behavior included verbal abuse, physical threats and physical assaults. Verbal abuse was degrading language used to insult rangers; physical threats were characterized as verbal or physical gestures that indicated intent of physical harm. Lastly, physical assaults suggested aggressive physical contact.

Visitor safety refers to the well-being of visitors who visit Corps projects throughout a season. Perceptions of visitor safety were measured by responses NRMB personnel gave on the characterization of visitor safety and descriptions of their present level of safety (increasing, decreasing, and staying the same-as defined above). Hostile behavior was also examined, but instead of separating the behavior as was done above, hostile behavior was examined in whole. Incidents in which visitors were physically or verbally abused or threatened were examined.

Gate attendant safety refers to the well-being of gate attendants at Corps projects. These people are not NRMB employees but are contracted to the government through a local agency. Perceptions of their safety were measured by looking at the different modifications that NRMB employees perceived would make them safer.

Alcohol use refers to the consumption of alcohol by visitors at Corps projects. NRMB perceptions about the impact of alcohol use were measured by examining the number of incidents that were alcohol related. Also NRMB opinions on whether alcohol should be allowed at Corps projects were obtained; responses covered a range between agree and disagree. The specific questions and the possible responses to each question are provided in Appendix C.

Perceptions of Visitor Assistance

The existence of a Visitor Assistance Program and Public Relations Plan at each Corps project was examined. Also, images that Corps staff personify to visitors were examined. The Visitor Assistance Program carries out policies of the Corps designed to provide safe and healthful recreation opportunities while protecting and enhancing project resources. "The protection of facilities or the enforcement of rules will always be secondary to the safety of Corps personnel and visitors (Reg. No. 1130-2-420[2])." A Public Relations Plan is an aggressive public information program geared to notify and assure public understanding and support of the Visitor Assistance Program. Each Corps project responsibility is to outline an action plan regarding public relations as a continuation of communication with the public

[2]This is the U.S. Army Corps of Engineers Visitor Assistance Program regulations that mainly specifies required equipment, procedures, and training in conflict resolution, personal protection and situation evaluation and other areas critical to the safety of rangers. This regulation was last updated 1 November 1992.

(Reg. No. 1130-2-420, pg. 2).

Different images of Corps staff were, "law enforcement," or "visitor assistant," or a range in between. The law enforcement types were those rangers that looked like badge toting officers with unlimited authority; whereas visitor assistant types, were rangers who projected an image of service and helpfulness to the visiting public. The images were measured by how Corps project staff perceived the public view of Corps rangers. Perceptions were recorded from a range of responses. The range was between "John Law," which is a nickname for the law enforcement type and "Good Guys" which is a nickname for the visitor assistance type; the middle of the range represented ambiguity. Also, how visitors viewed uniforms that rangers wore was also examined. (Specific questions and the response categories appear in Appendix C)

Equipment

The sufficiency and the importance of specific equipment to NRMB personnel was reviewed. Three different types of equipment were examined: communication, surveillance, and personal protection. *Communication equipment* helps rangers contact or signal other parties that could help in time of crisis. *Surveillance equipment* aids rangers in detecting crises and documenting incidents; listed are some examples of equipment: polaroid cameras, video cameras, and vehicle light bars. *Personal protection equipment* is used in times of crises; it helps protect Corps staff in life threatening situations; listed are some examples: blood borne pathogen protection, handgun and bulletproof vest.

Law Enforcement Agreements

This section focuses on the effectiveness of law enforcement agreements. Law enforcement agreements are policies and guidelines for the establishment and management of cooperative agreements for increased law enforcement services at Civil Works water resource projects administered by the Corps (ER 1130-2-418[3]). This was measured by examining the existence of agreements at Corps projects and the adequacy of service received.

Training

Skills and training courses were evaluated. The combination of skills and training was used to gain insight about the training of NRMB personnel. Skills are acquired through training and experience. A Likert scale was used with responses ranging from "important" to "not so important" to assess how important respondents thought specific skills were to their job performance.

Training is formal instruction that will provide skills in specific areas. Training was

[3]This regulation covers cooperative agreements for law enforcement services at Civil Works water resource projects and was updated 1 February 1984.

assessed by respondents reporting whether they had taken a specific course and if so, they were to rate the course's coverage of subject matter using a scale of "A" through "F" (A, B, C, D, F); "A" being the best rating and "F" the worst).

Management

Various aspects of management that affect operations and safety were addressed. Management concerns were issues brought up by Corps staff. As part of this measurement, the adequacy of support resources were examined for staffing, general funding, facility improvements, maintenance funding, and policy guidance. Support resources help to make a Corps project run more efficiently and effectively.

Demographic Characteristics

The survey solicited basic information about NRMB personnel concerning:

Gender	Position
Age	Citation authority
Grade	Ethnic background
Years in	Division/District

Population and Survey Administration

The population surveyed in this study included NRMB personnel, except administrative, clerical, and maintenance staff. The survey population mainly consisted of rangers, managers, and other professional personnel such as: outdoor recreation planners, environmental protection specialists, foresters, etc. Approximately 1,893 individuals made up this population at the time of survey. Surveys were mailed directly to each individual using a mailing list provided by NRMB. A cover letter was included which explained the purpose of the survey and a guarantee of anonymity. Participants who completed the survey were asked to return the surveys directly to IWR for data entry. A week after the initial mailing, a follow-up post card was mailed out reminding participants to complete and return their surveys if they had not already done so. A total of 1,267 surveys were returned for a response rate of 67 percent. This is a relatively high response rate for a mail out survey and suggests a high level of interest among NRMB personnel on the topic.

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percent held positions in professional areas stated above (see Figure 1-1). The grade levels of respondents ranged from GS-4 through SES, with GS-9 through GS-11 being the most common grade levels at 60 percent. Overall, 83 percent of the respondents were male and 17 percent female. Most of the respondents (38%) were within the 36-45 year age range (see Figure 1-2). The vast majority of respondents of this survey were Caucasian (92%). Of the remaining groups the highest representations were African Americans (2.5%), Native Americans (2.3%), Hispanics (0.7%), Asians (0.3%), and others (2.0%) (see Figure 1-3). Nationwide, 90 percent of the respondents had citation authority; that is, authority given to rangers and natural resource specialists allowing administration of tickets signifying violation(s) of Corps projects' rules and regulations.

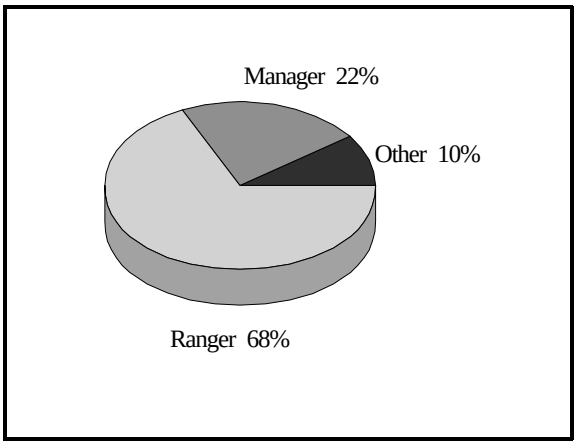


Figure 1-1. Percentage of Personnel in Each Employment Category

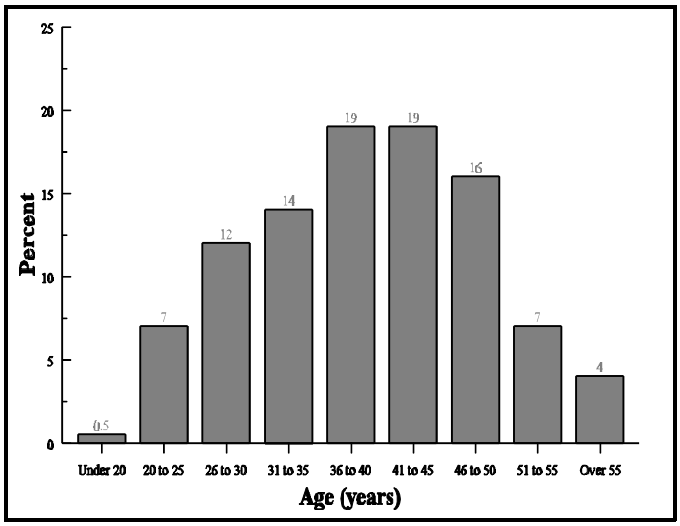


Figure 1-2. Age Distribution of Participants

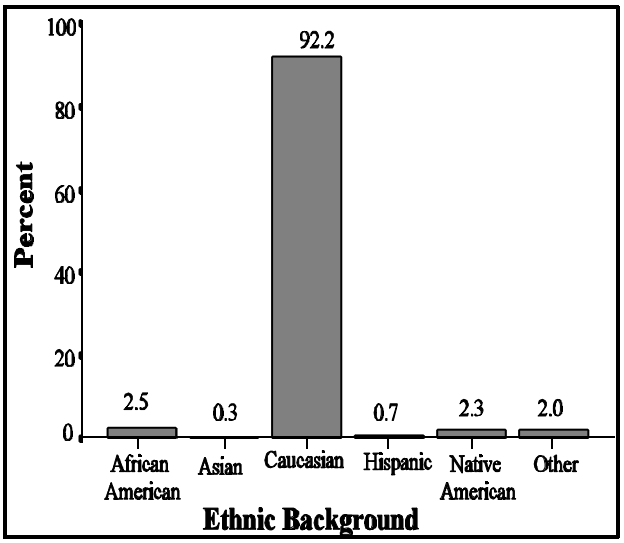


Figure 1-3. Ethnic Background of Survey Respondents

CHAPTER 2

PERCEPTIONS OF SAFETY

This chapter addresses perceptions of safety from the viewpoint of NRMB personnel. Two categories of safety were examined, NRMB personnel safety and visitor safety. Other topics such as alcohol use and modifications for improving gate attendant and overall safety were examined. Both general perceptions of safety and self-reports of hostile behavior against project staff and visitors were measured. Different perceptions are thoroughly discussed throughout this chapter.

NRMB Personnel Safety

Overall, many respondents said that they perceived their safety as good. However, respondents also viewed safety in another light, 42 percent of 1,265 respondents perceived their safety as fair to poor (see Figure 2-1). Although this group covers less than half of all respondents, these figures suggest some potential safety problems; especially when coupled with the fact that nearly half 1,164 respondents perceived their safety to be "decreasing."

Managers, rangers, and professional employees indicated some differences in perceptions of safety; managers overwhelmingly perceived their safety as good, while only half (51%) of rangers reported safety as good (see Figure 2-2). The differences displayed about ranger perceptions of safety, reveals that rangers as a whole do not agree that their safety is good; close to one-quarter (176 respondents) perceived their safety as poor and a little more than one quarter (226 respondents) perceived their safety condition as fair. A grand total of 49 percent of rangers (402 respondents) characterized their safety as fair to poor.

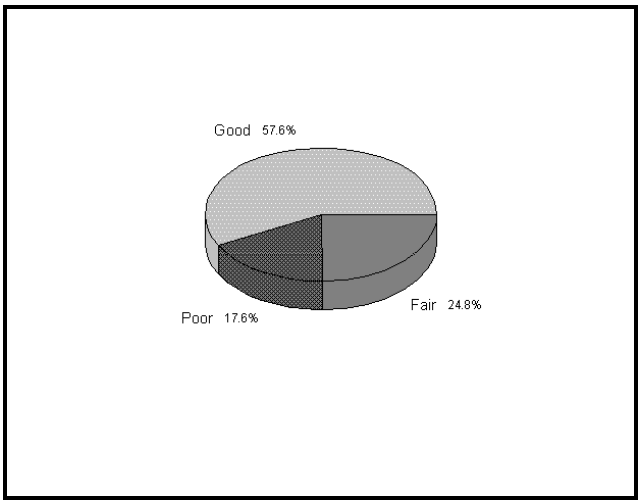


Figure 2-1. All Survey Respondents Rated How They Perceived Their Safety

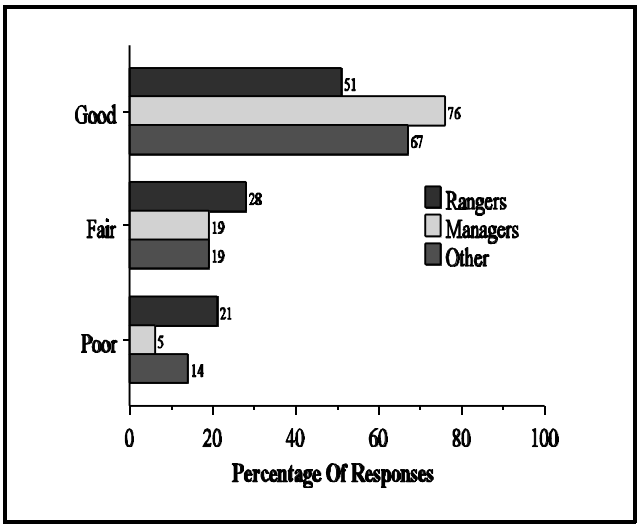


Figure 2-2. Survey Participants Rated How They Perceived Their Safety

Geographically, perceptions were similar by Division. It was found that more than half of most Divisions reported that they perceived their safety as good. Exceptions, although close to 50 percent, were the South Pacific Division (SPD) with 45 percent (20 respondents) and the Southwestern Division (SWD) with 47 percent (105 respondents) agreeing that the condition of their safety was good. Again, perceptions of poor safety were not very frequent; however, about one-quarter of those that responded from the South Pacific (12 respondents) and Southwestern Divisions (45 respondents) considered safety poor at their specific projects.

Besides perceived safety conditions at Corps projects, the perception of change in personnel safety was examined. The three possible levels used to describe perceived safety were "increasing," "decreasing," and "staying the same" (see Table 2-1). Managers typically described their safety as "staying the same." Professional personnel revealed similar perceptions with 56 percent indicating their safety as staying the same. On the other hand, rangers clearly characterize their safety differently, they typically described their safety as "decreasing" with 50 percent reporting this direction of change (see Table 2-1). Therefore, NRMB personnel was less likely to agree on perceptions of increasing safety. Mainly, the bulk of responses showed "decreasing" or "safety that stays the same." Findings such as these are evidence that the safety issue requires further examination. Unfortunately, evidence of increasing safety at Corps projects is scarce.

Table 2-1. Respondents Characterize Corps Staff Safety

Safety	*Managers*	*Rangers*	*Professional*
Increasing	18	12	18
Decreasing	34	50	26
Staying the Same	48	38	56
Total	100%	100%	100%

Verbal Abuse, Physical Threats, and Assaults

Incidents of verbal abuse, physical threats, and physical assaults were explored to shed light on hostile behaviors experienced by Corps project staff. In this study, verbal abuse is degrading language used to insult project staff; physical threats were characterized as verbal or physical gestures that indicated intent of physical harm. Lastly, physical assaults suggested aggressive physical contact. Project staff that is consistently stationed in the field (rangers), directly interacting with the visitor, have more face to face contact with hostile behaviors displayed at Corps projects than the other employment categories (managers and professional personnel). Therefore, hostile behaviors against rangers perpetrated by visitors were examined the closest.

Within the last three years, of 813 rangers that responded, 507 (62%) rangers said that they experienced between 1-10 incidents of verbal abuse (see Figure 2-3). Although, physical threats were perpetrated against rangers at a less frequent rate than verbal abuse, 373 respondents (46%) reported between 1-10 incidents of physical threats (see Figure 2-4). The least frequent occurrences of hostile behavior involved physical assaults. Of the 813 rangers responding, only 94 (12%) indicated that they had been physically assaulted at least once over the last three years; all other respondents reported zero

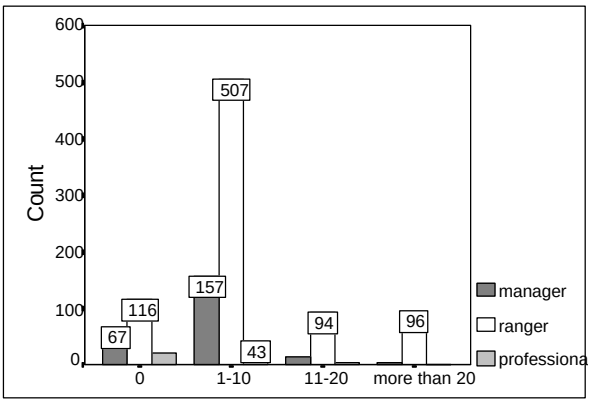


Figure 2-3. Verbal Abuse against Respondents Within the Last Three Years

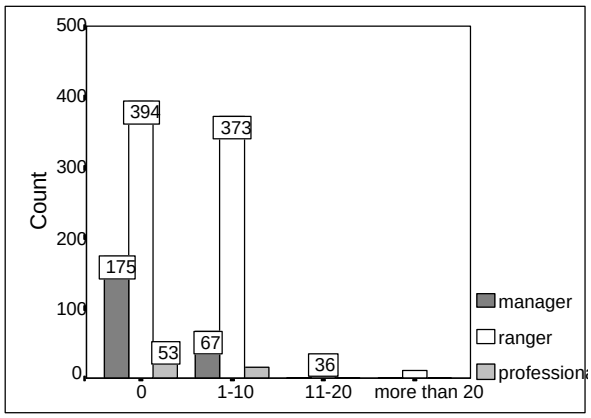


Figure 2-4. Number of Physical Threats Against Respondents Within the Last Three Years

physical assaults.

Due to the abuse that staff encounter, some more than others, a reaction may result. However, the ways in which project staff can react are limited. In fact, Corps project personnel have no law enforcement authority and are encouraged to consult law enforcement officials when visitors are in violation of the law.

The operation of Corps projects is multifaceted and therefore, safety problems can be due to several different factors. Safety problems that are encountered may be linked to the visitors assistance aspect of training or other training issues such as communication, public relations, and conflict resolution training. Also, having the appropriate equipment and a rapport with local law enforcement agencies may be related to the frequency of abuse Corps project staff encounters. How these issues relate to safety at Corps projects are discussed in more detail within the succeeding chapters.

Contributing Factors

Incidents against staff at Corps projects are believed to be provoked by a variety of factors. The premise, however, is that some factors contribute to verbal abuse, physical threats and physical assaults of project staff more frequently than do other factors. Of the incidents against project staff, alcohol is reported to contribute most frequently.

One factor that appears to have very little or no impact on incidents involving Corps project staff is ethnic differences. In Table 2-2, ethnic differences are ranked tenth out of twelve factors. Only 11 percent of the

Table 2-2. Ranking Importance of Contributing Factors to IncidencesInvolving Rangers

Factors	*Percent*
1. Alcohol	76
2. Personality of Visitor	71
3. Drugs	48
4. Conflicting Activities	35
5. Overcrowding	35
6. Mistaking Rangers for Law Enforcement Officials	33
7. Isolation of Project	30
8. Lack of Ranger Skills and Training	22
9. Failure of Ranger to Control the Situation	14
10. Ethnic Differences	11
11. Gang Activity	10
12. Language Differences	8

survey population considered that it may be an important factor in contributing to hostile

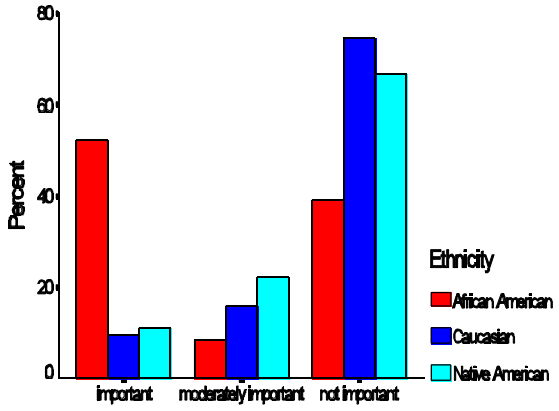


Figure 2-5. Importance of Ethnic Differences Contributing to Incidents Against Rangers

behaviors. However, as data is examined further, results show that after stratifying the population into the different ethnic groups (African American, Caucasian and Native Americans), outcomes change (see Figure 2-5). Clearly, African Americans disagree that ethnic differences are not a factor when contributing to incidents against project staff. Based on this finding, perceptions of safety may be different depending on the respondent's ethnic background. So, using all perceptions, even those other than the majority will better aid in discovering the problems and finding solutions to safety problems at Corps projects.

Visitors Safety

Respondents generally characterized visitor safety better off than NRMB personnel safety. Basic interpretation of the data reveals that most respondents and all employment categories overwhelmingly perceived visitor safety to be in good condition. Perceptions of change in visitor safety were of "increasing" more frequently than project staff safety levels (see Table 2-3).

Table 2-3. Corps Personnel Characterize Visitor Safety

Safety	*Managers*	*Rangers*	*Professional*
Increasing	22	22	18
Decreasing	28	40	29
Staying the Same	50	38	53
Total	100%	100%	100%

Given that these results are not perceptions directly taken from visitors, some limitations in the ability to generalize the findings exist. We cannot automatically assume that because NRMB personnel perceived visitor safety in this fashion that visitors see their safety in the same light. Perhaps future research will address visitor perceptions directly.

In the last three years, 430 rangers (53%) witnessed between 1 and 10 incidents where a visitor verbally or physically threatened another visitor (see Figure 2-6). Unlike incidents that involved rangers as the victim, 185 rangers (23%) indicated that they witnessed more than 20 incidents in which visitors displayed some hostile behavior toward another visitor. This is probably due to the conglomeration of verbal abuse, physical threats, and assaults that describe the array of hostile behaviors; also coupled with the reality that there are many more visitors at Corps projects than rangers.

Visitor safety at Corps projects is viewed as being less of a problem than project staff safety, nonetheless, it requires attention. We should ask why do visitors display hostile behavior toward project staff and other visitors? Does the surrounding environment promote these behaviors? Do project staff have the tools, and appropriate training to intervene or to de-escalate potentially hostile situations? These questions will be discussed in later chapters.

Alcohol

Based on responses to the survey question, it appears that visitors do experience some hostile behavior at the hands of visitors and that their safety is a problem. One thousand and twenty four project personnel participated in pointing out the factors that contribute to hostile behaviors displayed by visitors. A large fraction of this group (870) reported that alcohol was the most important factor in contributing to the array of hostile behaviors.

The perceptions and impacts of alcohol use were examined. Alcohol use by "of age" visitors is perfectly legal at Corps projects, but that does not negate the fact that used in large quantities it could impair judgment. After examining incidents perpetrated against project staff and incidents against visitors (see Table 2-4), consistently, alcohol was rated the number one factor that contributed to these incidents. Therefore, from the outset, alcohol appeared to cause safety problems at Corps projects.

In search of a more complete picture of the impact of alcohol, we asked, "What is the average number of alcohol-related incidents that you have been directly involved with at your project within the last three years?" In the last three years, out of 1,138 respondents, 482 (42%) answered that they had been directly involved with alcohol-related incidents at least 1 to 10 times (see Figure 2-7). Nineteen percent (218) were involved in an incident 11-20 times and almost 30 percent (322) reported that they were directly involved with alcohol-related incidents more than 20 times in the last three years (see Figure

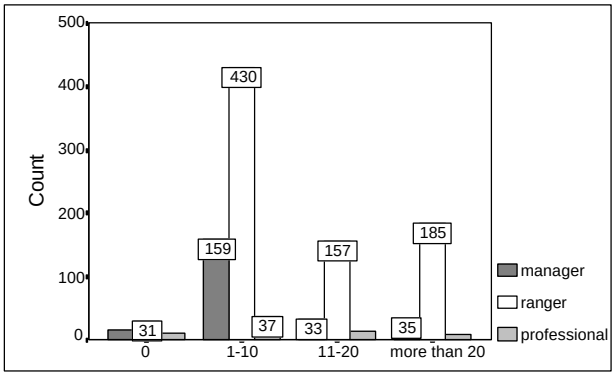


Figure 2-6. Number of Incidents of Verbal Abuse, Physical Threats and Assaults on Visitors

2-7). This information mainly tells the number of alcohol-related incidents witnessed by project staff, but when coupled with the fact that alcohol is the number one factor in contributing to Corps project incidents, the results become more serious.

Views about whether alcohol should be allowed or prohibited were solicited. Forty percent of respondents disagreed that "alcohol should be allowed at Corps projects," (see Figure 2-8). There was also a second statement, "prohibition of alcohol at Corps projects would increase overall safety," the popular response was overwhelming; out of 1,248 project staff , 893 agreed (72%) (see Figure 2-9).

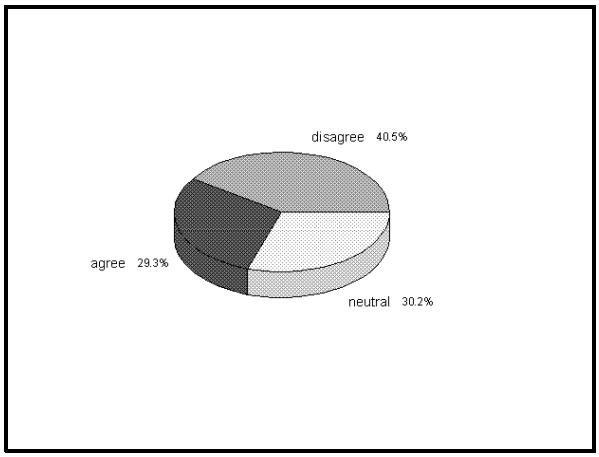


Figure 2-8. "Alcohol should be allowed at Corps project."

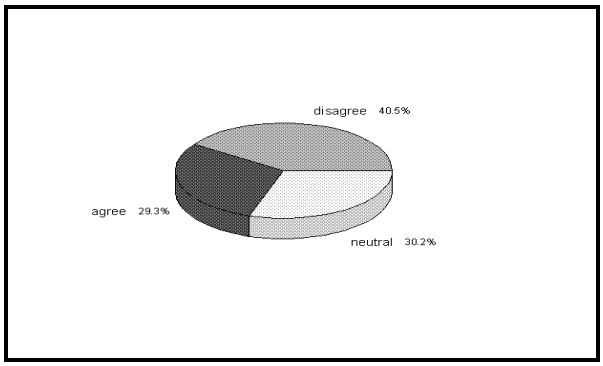


Figure 2-9. "Prohibition of alcohol at Corps projects would increase overall safety."

Table 2-4. Ranking Importance of Contributing Factors for Incidences Involving Visitors

Factor	***Percent***
1. Alcohol	85
2. Personality of Visitor	75
3. Drugs	56
4. Overcrowding	48
5. Conflicting Activities	44
6. Isolation of Project	34
7. Mistaken Rangers for Law Enforcement Officials	30
8. Ethnic Differences	22
9. Failure of Ranger to Control the Situation	18
10. Gang Activity	17
11. Language Differences	11

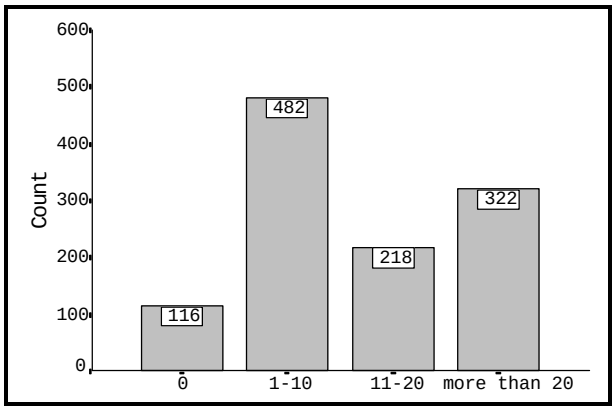


Figure 2-7. Alcohol Related Incidents Involving Respondents Within the Last Three Years

*For every importance ranking table in this study, information was ranked and put in order according to combined responses of categories "extremely" and "very important" for each factor.

Modifications

In this study modifications were recommended changes in equipment, policies, landscaping and other areas determined to be important to safety. Important gate attendant modifications were explored and a table of rankings created. Traffic modifications and general modifications were also explored and results were presented by ranking most to the least important.

Gate Attendant Safety

Gate attendants refer to assistance the Corps solicits through contractors, some duties include monitoring the entrance points and collecting day use fees. Of all the modifications, installing telephones and radios inside the buildings gate attendants are stationed at rated the number one modification to improving gate attendant safety (see Table 2-5). The installation of bulletproof glass and increasing or decreasing gate hours were not perceived as important to enhancing safety.

Table 2-5. Ranking Modifications Important to Gate Attendant Safety

Modifications	***Percent***
1. Install Telephones and Radios	96
2. Frequent Revenue Pickup	86
3. Install Safes at Gate Stations	78
4. Uniforms	60
5. Install Surveillance Cameras	49
6. Enlarge Gate Stations	38
7. Install Bulletproof Glass	29
8. Reduced Operating Hours	20
9. Increased Operation Hours	19

*For every importance ranking table in this study, information was ranked and put in order according to combined responses of categories "extremely" and "very important" for each modification.

Overall Safety

Traffic modifications looked at changes concerning location and number of entrances, improved parking area, one-way traffic flow in selected areas, limiting the number of vehicles into the project and road widening. Two factors perceived to be important modifications to influence safety positively were the location and number of entrances and improved parking areas (see Table 2-6).

Table 2-6. Traffic Modifications Importance Ranking

Traffic Modifications	***Percent***
1. Location and Number of Entrances	73
2. Improved Parking Area	72
3. One-way Traffic Flow in Selected Areas	61
4. Project Vehicle Limit	57
5. Road Widening	40

*For every importance ranking table in this study, information was ranked and put in order according to combined responses of categories "extremely" and "very important" for each traffic modification.

Finally, general safety modifications included factors such as: patrol (surveillance), public phones in developed areas, lighting, separate day use and overnight areas, attended entrance stations, nightly gate closing in recreational areas, clearly designated boundaries of recreational areas, general

landscaping, additional facilities, fewer entries to recreational areas, enforced project visitor capacity, and shrubbery reduction (see Table 2-7). Results revealed that patrolling (surveillance) was perceived most important for enhancing safety (see Table 2-7). Most of the remaining factors were perceived as important by more than half the respondents. This suggests that all the factors in Table 2-7, if implemented, may influence overall safety positively.

Table 2-7. Ranking Overall Safety Concerns

Safety Concerns	***Percent***
1. Patrol (surveillance)	99
2. Public Phones in Developed Areas	99
3. Lighting	98
4. Separate Day Use and Overnight Areas	95
5. Attended Entrance Stations	92
6. Nightly Gate Closing at Recreational Areas	89
7. Clearly Designated Boundaries of Recreational Areas	85
8. General Landscaping	80
9. Additional Facilities	78
10. Fewer Entries to Recreational Areas	64
11. Enforce User Limit/Carrying Capacity	63
12. Shrubbery Reduction	61

*For every importance ranking table in this study, information was ranked and put in order according to combined responses of categories “extremely” and “very important” for each factor.

CHAPTER 3

PERCEPTIONS OF VISITOR ASSISTANCE

This chapter addresses how NRMB personnel believe visitors perceive rangers, as visitor assistance or law enforcement. Additionally, whether Visitor Assistance and Public Relation Plans exist and how they relate to safety issues at Corps projects were examined.

The perceived public image of rangers as seen by survey participants is a dual role of law enforcement officer (a badge toting authority figure) and visitor assistant (service oriented and helpful to visitors) with little distinction between the two. As shown in Figure 13, responses were less frequent at opposite poles of the scale ("John Law"- law enforcement personality and "Good Guys"- visitor assistance personality). Responses most often appeared in the middle of the scale; therefore, signaling ambiguity in the images perceived to personify rangers.

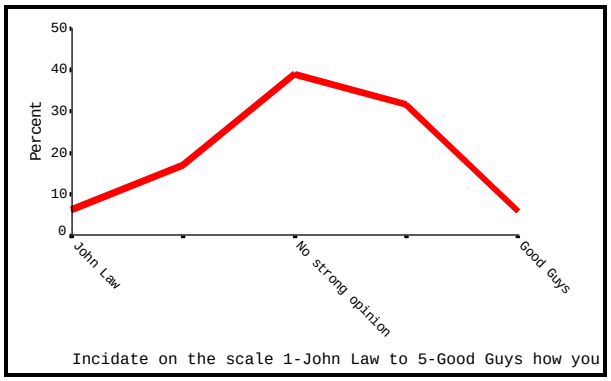


Figure 13. Perceived Public's View of Corps Natural Resources Field Personnel

Perceptions of the two uniform types (A and B) were examined and different images were projected; respondents showed that the Class A uniform projected an ambiguous image where the ranger is perceived as neither the law enforcement nor visitor assistance type (see Figure 14). The Class A uniform is the business uniform worn with a white shirt, a tie and a green blazer; this uniform is usually worn only during public appearances by administrative staff and project managers. The Class B uniform projected primarily a law enforcement image. This uniform is military style that displays a badge and a hat; uniforms are worn by project rangers and specialty staff, for example, project foresters and landscapers. Responses for both uniform styles were similar for managers and rangers.

Although, 42 percent of project staff perceived that visitors' images of the Class B uniform are law enforcement (see Figure 14), rangers have no law enforcement authority

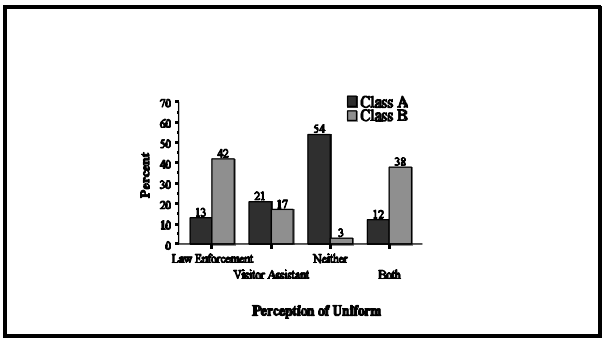


Figure 14. Public Views of Class A and Class B Uniforms

other than title 36. These perceptions may cause some misunderstandings. Visitors who believe rangers have law enforcement authority expect rangers to react accordingly and unclear roles may cause some misunderstandings. The authority that rangers possess and the authority those local law

enforcement agencies provide should be voiced clearly. The partnership between law enforcement agencies and Corps projects is discussed in more detail in chapter 5.

Many respondents said they were aware of a Visitor Assistance Program at their project. Overall, of 1,144 responses to this question, 90 percent said they were aware, 5 percent said they were "uncertain," and 5 percent said "no" they were not aware of a Visitor Assistance Program (see Figure 15).

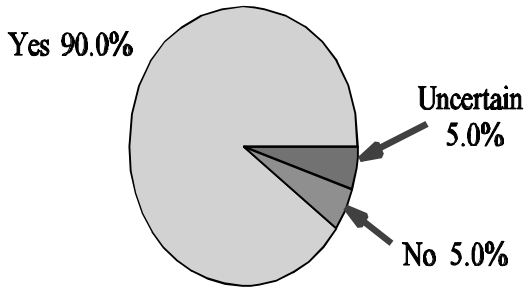


Figure 15. Respondents Knowledge of a Visitor Assistance Program

Although the Public Relations Plan is a component of the Visitor Assistance Program, fewer respondents were aware of such a plan. Only 52 percent reported knowledge of a Public Relations Plan, and while a very small percent were unsure whether a Visitor Assistance Plan existed, more persons (26%) were unsure concerning the presence of a Public Relations Plan (see Figure 16).

Examining visitor assistance and public relation plans by Division reflected a spectrum of results. Table 8 displays the total percent for each Division that were aware that a Visitor Assistance Program existed.

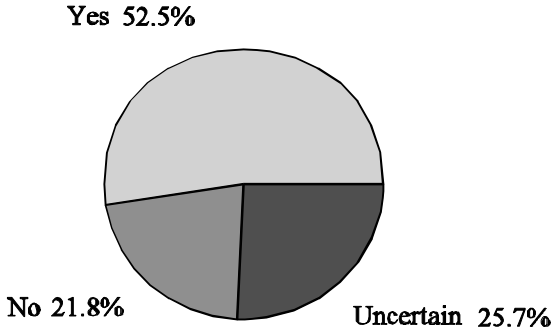


Figure 16. Respondents Knowledge of a Public Relations Plan

TABLE 8. VISITOR ASSISTANCE PROGRAM BY DIVISION

DIVISION	*PERCENT (N=884)*			
	yes	*no*	*uncertain*	*total %*
Lower Mississippi	99	1	0	100
Missouri River	94	3	3	100
New England	88	5	7	100
North Atlantic	94	6	0	100
North Central	96	0	4	100
North Pacific	98	0	2	100
Ohio River	89	6	5	100
South Atlantic	94	2	4	100
South Pacific	82	16	2	100
Southwestern	82	7	11	100

Additionally, South Pacific and Southwestern Division showed 18 percent answered no or uncertain to their awareness of such a program. Table 9 addresses the existence of a functioning Public Relations Plan within each Division. According to the 1,144 responses,

more are aware of the Visitor Assistance Program than of the Public Relations Plan. Less than 50 percent of three Divisions reported awareness of their projects Public Relations Plan (New England, North Atlantic, and Southwestern). Additionally, New England stands out with only 35 percent reporting that they do have a program in place.

TABLE 9. PUBLIC RELATIONS PLAN BY DIVISION

DIVISION	***PERCENT (N=879)***			
	yes	***no***	***uncertain***	***total %***
Lower Mississippi	66	14	20	100
Missouri River	50	34	16	100
New England	35	30	35	100
North Atlantic	44	28	28	100
North Central	60	19	21	100
North Pacific	51	29	20	100
Ohio River	52	26	22	100
South Atlantic	55	22	23	100
South Pacific	61	25	14	100
Southwestern	43	35	22	100

A total of 10 percent were unaware that a Visitor Assistance Program existed at their project. This means that 189 persons of a population of 1,893 are not familiar with the various points within Regulation No. 1130-2-420. Also, of 1,893 respondents, 908 were uncertain of their projects' Public Relations Plan. So, how can various policies and practices be carried out if rangers are unaware that the program even exists? The Visitor Assistance Program calls for providing safe and healthful recreation opportunities while protecting and enhancing the safety of Corps personnel and visitors. The Public Relations Plan is an aggressive public information program designed to notify and assure public understanding and support of the Visitor Assistance Program. Ultimately, the more aware rangers are of the program the more likely they will practice safety as prescribed by the Regulation (1130-2-420).

CHAPTER 4

EQUIPMENT

In this study, we asked respondents "of the various types of equipment, what did they believe to be important in conducting daily Corps project operations?". There are three types of equipment: communication, surveillance, and personal protection equipment; some of which have been used and some that have never been used by project personnel during official duties. The main objective in evaluating perceptions of important equipment, is to discover equipment that enhances safety at projects and to uncover the shortcomings concerning the lack of appropriate equipment.

What equipment fosters safety at Corps projects? Addressing this question is twofold, equipment that fosters safety is equipment perceived as important in helping to carry out official duties. While, equipment perceived unimportant suggests that, most likely it is not a factor that will influence safety greatly. Specific examples are sited below.

Communication Equipment

Communication equipment was generally considered important equipment for use on the job by all positions. Of the nine different types of communication equipment, managers and rangers ranked the importance of this equipment similarly. Mobile vehicle radios ranked the highest while law enforcement communication links followed (see Table 10). This equipment is perceived as necessary to carry out daily duties and more important, to fostering safety at Corps projects. Further down the ranking list (see Table 10), results show that managers and rangers also agreed that answering machines and paging devices were perceived to be the least important and therefore, not very necessary in promoting safety at Corps projects.

Table 10. Importance Ranking of Communication Equipment

	Equipment	*Managers %*		*Equipment*	*Rangers %*
1	Mobile Vehicle Radio	96	1	Mobile Vehicle Radio	98
2	Law Enforcement Communication Link	92	2	Law Enforcement Communication Link	95
3	Portable Radio	89	3	Portable Radio	94
4	Public Phone	58	4	Public Phone	67
5	Cellular Phone	49	5	Public Address System	60
6	Public Address System	47	6	Scanner	59
7	Scanner	42	7	Cellular Phone	56
8	Answering Device	27	8	Answering Device	33
9	Pager	15	9	Pager	19

Surveillance Equipment

Surveillance equipment is seen as being useful to enhance field personnel monitoring capabilities and detection of crises at various Corps projects. Specifically, the items are polaroid cameras, 35mm cameras, video cameras, vehicle light bars and alarms. Only two items were considered overwhelmingly

important, these were polaroid cameras and 35mm cameras. Of these items, polaroid cameras were most important among managers and rangers (see Table 11). The remaining items were not as important, responses waver to unimportance in contributing to safety at Corps projects (see Table 11).

Table 11. Importance Ranking of Surveillance Equipment

	Equipment	Managers %		Equipment	Rangers %
1	Polaroid Camera	72	1	Polaroid Camera	81
2	35 mm Camera	70	2	35 mm Camera	73
3	Video Camera	42	3	Video Camera	49
4	Vehicle Light Bar	28	4	Alarm	47
5	Alarm	26	5	Vehicle Light Bar	43

Personal Protection Equipment

In this study, personal protection equipment refers to equipment used to protect personnel from potentially life threatening situations during official duty. Of all the protective equipment, overwhelmingly, blood borne pathogen protection was seen as the most important (see Figure 17). Responses "extreme importance" and "very important" were combined; of these responses, 80 percent of managers revealed that blood borne pathogen protection was important, rangers reported an even greater response rate of 89 percent (see Table 12). Following in importance, as suggested by respondents, were mace/pepper spray and bulletproof vests (see Figures 18 and 19).

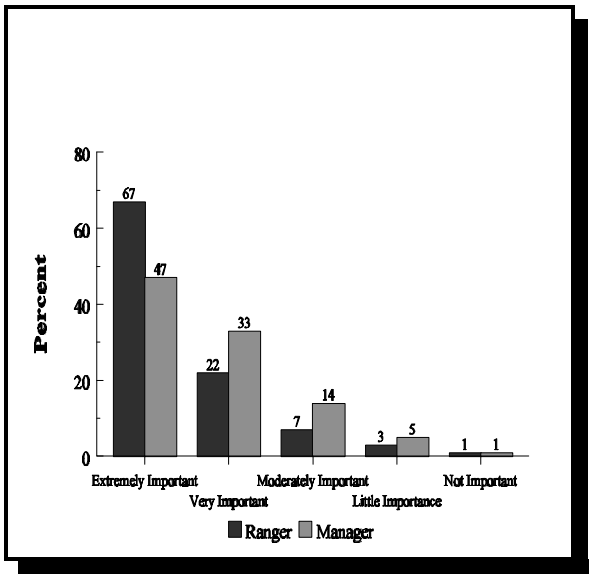


Figure 17. Blood Borne Pathogen Protection

Table 12. Importance Ranking of Personal Protection Equipment

	Equipment	Manager %	Ranger %
1	Blood Pathogen Protection	80	89
2	Mace/Pepper Spray	36	57
3	Bulletproof Vest	22	44
4	Nightstick	18	34
5	Handgun	17	34
6	Stun Gun	13	26
7	Night Goggles	7	21

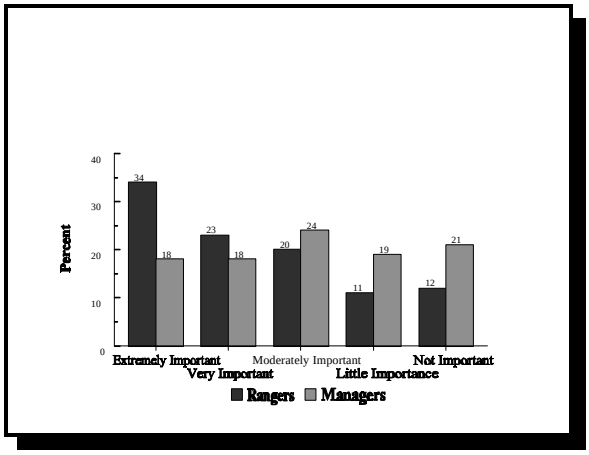


Figure 18. Mace/Pepper Spray

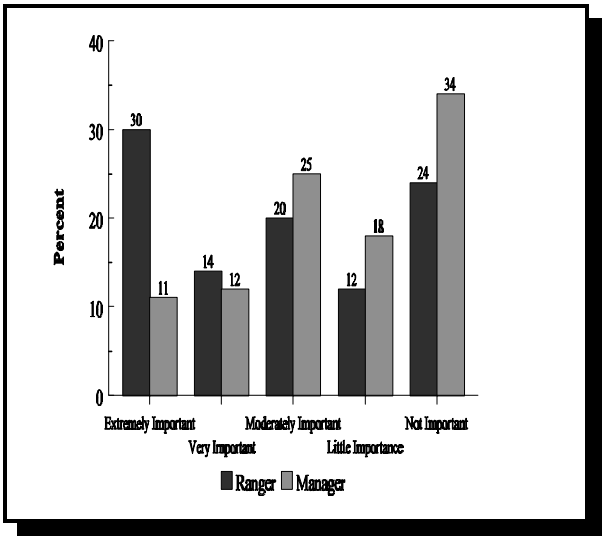


Figure 19. Bulletproof Vests

Lastly, responses concerning the importance of personal protection equipment by Division were explored. Figure 20 displays the Divisions that clearly considered various items of equipment important or unimportant. Also shown, are the Divisions about which no strong opinion was shown either way, that is 50 or more percent for importance or unimportance. Following the figure closely shows that blood borne pathogen protection is considered important by every Division, exemplifying a very strong consensus across the Corps.

Looking more closely at results on protective equipment, bulletproof vests were far from consistent across the Corps; half the Divisions perceived it as unimportant and the other half had no strong perceptions either way. Only one Division, the Southwestern Division, believed that bulletproof vests were important (see Figure 20). Based on responses about handguns, the consensus throughout the Corps indicated that handguns were unimportant. Mace/pepper spray data showed some differences; three Divisions, North Atlantic, South Pacific, and Southwestern perceived the item as important. On the other hand, night goggles, night sticks, and stun guns were generally considered unimportant by various Divisions.

Sufficiency of Equipment

The sufficiency of equipment refers to the overall adequacy of the current equipment supply. Overall, many managers responded that equipment was sufficient. Although differences are not statistically significant, disparities do exist. Forty six percent of the managers responded that equipment supplies were sufficient, while 35 percent stated that it was not sufficient (see Figure 21). In contrast, only 30 percent of the ranger population stated that equipment was sufficient, while 48 percent stated that it was not sufficient (see Figure 22).

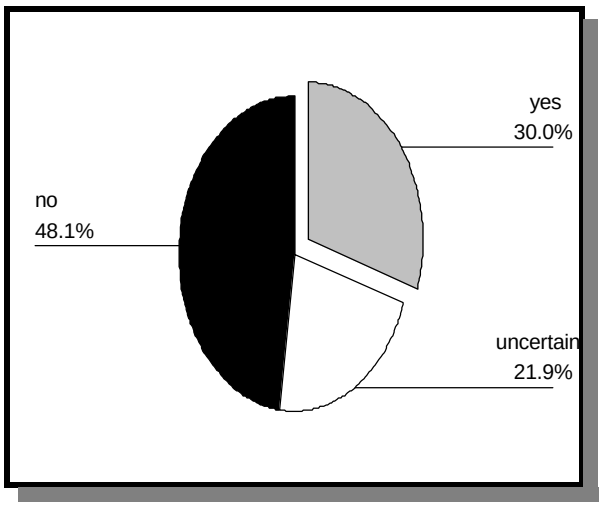


Figure 22. Rangers Rate the Sufficiency of Equipment

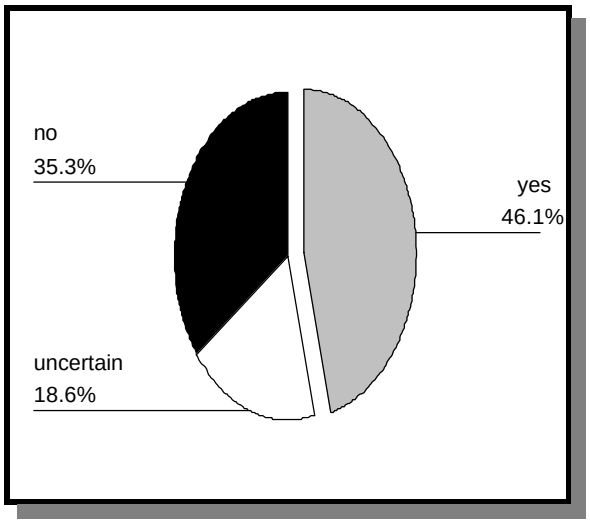
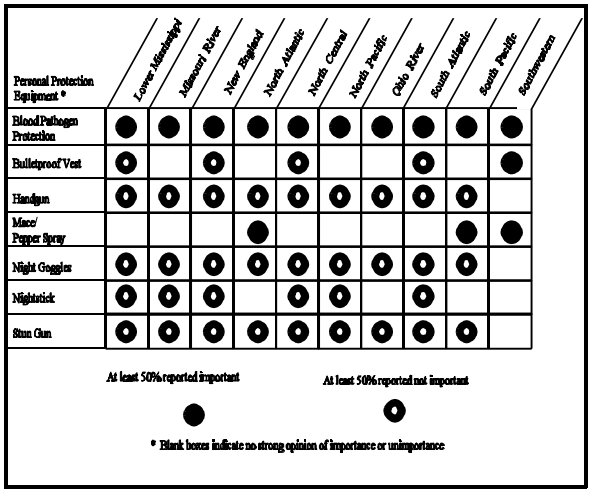


Figure 21. Managers Rate the Sufficiency of Equipment



Personal Protection Equipment *	Lower Mississippi	Missouri River	New England	North Atlantic	North Central	North Pacific	Ohio River	South Atlantic	South Pacific	Southwestern
Blood/Pathogen Protection	●	●	●	●	●	●	●	●	●	●
Bulletproof Vest	○		○		○			○		●
Handgun	○	○	○	○	○	○	○	○	○	
Mace/ Pepper Spray				●					●	●
Night Goggles	○	○	○	○	○	○	○	○	○	
Nightstick	○	○	○		○	○		○		
Stun Gun	○	○	○	○	○	○	○	○	○	

At least 50% reported important ●

At least 50% reported not important ○

* Blank boxes indicate no strong opinion of importance or unimportance

Figure 20. Importance of Equipment by Division

CHAPTER 5

LAW ENFORCEMENT AGREEMENTS

The existence of law enforcement agreements helps to guarantee that local law enforcement officials assist with law enforcement at Corps projects. This agreement acts as a partnership between the Corps and local law enforcement agencies. Generally, the belief is that having a law enforcement agreement better enables Corps projects to provide safe environments. Below is an examination of the status of law enforcement agreements at Corps projects.

Several questions were asked of participants about the presence of law enforcement agreements; the adequacy of agreements and problems encountered contacting law enforcement agencies. Overall, out of 881 responses to the question, "Do you have an agreement at your project?", 80 percent said "yes," 19 percent said "no," and 3 percent were "uncertain." Agreements were perceived by 58 percent to be a combination of very adequate and adequate (see Figure 23). Most respondents believed that service provided by law enforcement agencies under the agreement was adequate (see Figure 24). In addition, nearly 30 percent of respondents indicated that they had trouble contacting law enforcement authorities (see Figure 25). Although 30 percent was not statistically significant, having difficulties contacting law enforcement agencies 3 out of 10 times during crises poses safety hazards to visitors and project staff.

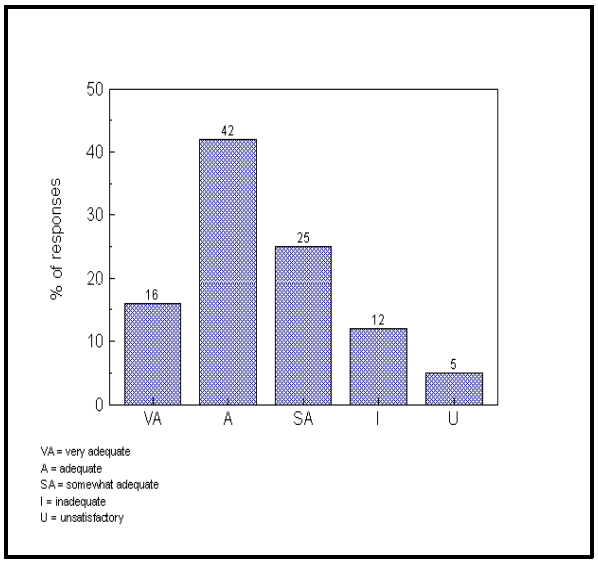


Figure 23. Adequacy of Agreement

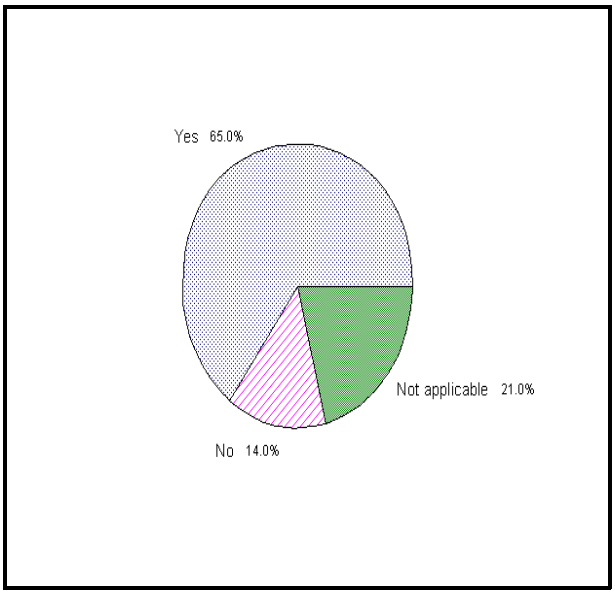


Figure 24. "Is the service received as a result of the agreement adequate?"

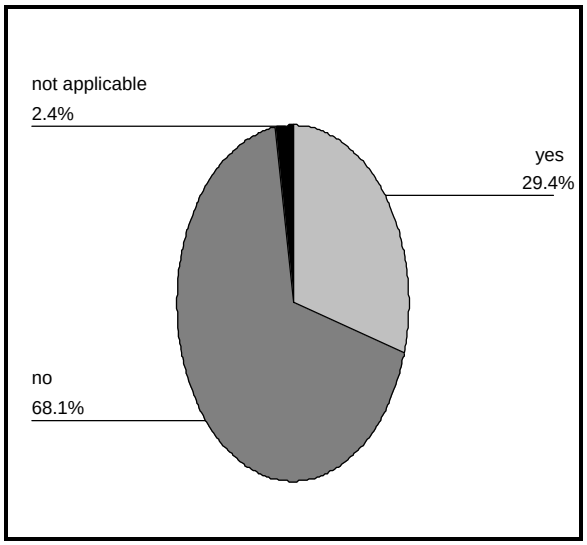


Figure 25. "Are there problems contacting law enforcement agencies?"

Table 13 reports the total number of responses per Division and the total percent for each Division that answered yes to having an agreement at their project. Most responses per Division reported having a law enforcement agreement by at least 60 percent. Six Divisions reported 80 percent and above that they had an agreement. These Divisions were Lower Mississippi Valley, Missouri River, South Atlantic, South Pacific, and Southwestern Divisions. The North Atlantic Division stands out with only 47 percent of its respondents in agreement that they have a law enforcement agreement.

Table 13. Law Enforcement Agreements by Division (the total numbers and percent per Division that answered yes to having a law enforcement agreement at their project)

Division	NUMBER			% yes	Total N
	yes	unc	no		
Lower Mississippi	95	2	6	92	103
Missouri River	54	2	7	86	63
New England	25	1	12	66	38
North Atlantic	8	2	7	47	17
North Central	32	0	16	67	48
North Pacific	40	3	13	71	56
Ohio River	102	3	50	66	155
South Atlantic	110	7	21	80	138
South Pacific	38	0	5	88	43
Southwestern	185	4	31	84	220
TOTAL	689	24	168	78	881

CHAPTER 6

TRAINING

Knowledge and Skills

In this section, important training, knowledge, and skills considered enhancing to job performance was explored. The importance or unimportance of eleven different types of skills were considered. Sufficient skills and proper training are important to developing and maintaining a safe environment. Project staff have made some indications of the skills they considered most important in successfully carrying out official duties; that is, duties that include providing a safe environment for visitors.

Both managers and rangers responded similarly; however, rangers on average felt stronger about specific skills than did managers. The five highest ranking skills perceived as important by managers and rangers were communication, public relations, conflict management, Title 36 Rules and Regulations, and water safety (see Table 14). These skills were perceived as important by at least 85 percent of respondents. The lowest ranking skill in importance to respondents was crowd control. Generally, all of the skills in Table 14 were important as suggested by at least 50 percent of respondents; therefore, all the skills seem critical in promoting safety at Corps projects.

Table 14. Skills Ranked in Importance by Managers and Rangers

Skills	*Managers %*	*Skills*	*Rangers %*
1 Communication	**98**	**1 Communication**	**97**
2 Public Relations	**97**	**2 Public Relations**	**95**
3 Conflict Management	**92**	**3 Conflict Management**	**94**
4 Title 36 Rules and Regulations	**91**	**4 Title 36 Rules and Regulations**	**92**
5 Water Safety	**85**	**5 Water Safety**	**90**
6 First Aid	**79**	**6 Personal Protection**	**88**
7 Personal Protection	**76**	**7 First Aid**	**86**
8 Defensive Driving	**71**	**8 First Responder**	**78**
9 First Responder	**665**	**9 Defensive Driving**	**75**
10 Incident Reporting	**62**	**10 Incident Reporting**	**75**
11 Crowd Control	**52**	**11 Crowd Control**	**66**

Course Work and Training

Five different training courses were explored in this study; these courses are taken during employment with the NRMB Branch. The training courses include Visitor Assistance Basic (see Figure 26), Advanced Visitor Assistance (see Figure 27), Personal Protection (see Figure 28), Refresher Visitor Assistance (see Figure 29), and Visitor Assistance Update courses (see Figure 30). Respondents were asked to rate each course with a letter grade (A, B, C, D or F); the grade represented how well the course covered training subject matter and how thorough Corps staff was trained. Ratings of courses fluctuated among managers, rangers and

professional project staff.

The most basic of the courses, Visitor Assistance Basic, was rated "F" more frequently than the other courses (see Figure 26). Managers rated this course failing (23%) and "C" (39%) more frequently than did rangers and professional personnel. Rangers reported the most (26%) "A" ratings, and the least (16%) "F" ratings.

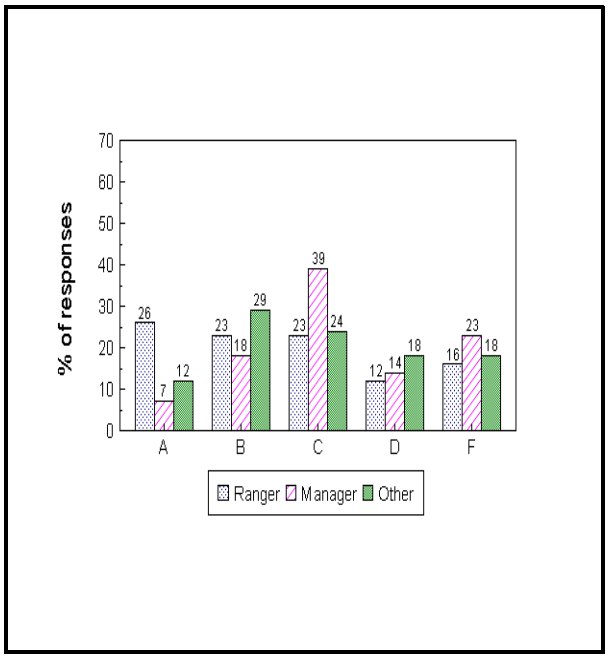


Figure 26. Visitor Assistance Basic

The Advanced Visitor Assistance course appears to tell a different story; most responses were within "B" and "C" ratings. Managers, rangers, and professional personnel felt similarly about the course. The Personal Protection Training course rating distributions look similar to the previous course (see Figure 28); again, most responses showed ratings of "B" and "C."

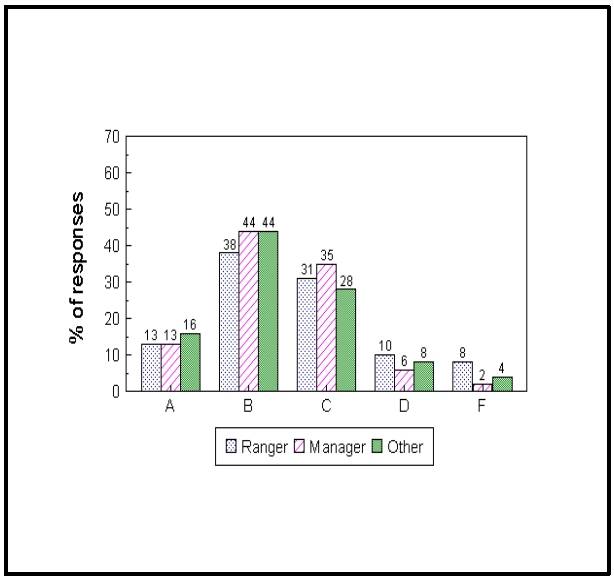


Figure 27. Advanced Visitor Assistance Course

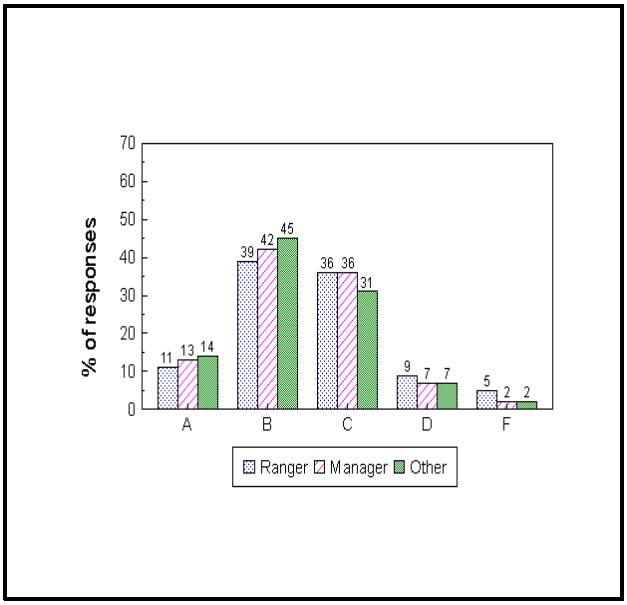


Figure 28. Personal Protection Course

The Refresher Visitor Assistance Training course rating distribution shows differences in opinions among managers, rangers, and professional personnel (see Figure 29). Managers most frequently rated this course with a "C." In contrast, for this course rangers and professional personnel displayed the greatest number of "A" and "B" ratings. It appears that professional personnel were much more pleased with the quality of the course than were the remaining project personnel. Last, is the Visitor Assistance Update course (see Figure 30). Results of these responses illustrate that most frequently rangers and professional personnel rated the course a "B", while managers' responses did not cluster in any particular rating.

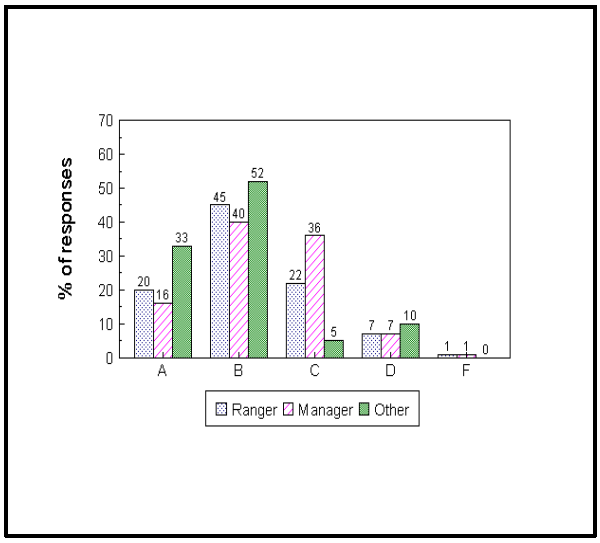


Figure 29. Refresher Visitor Assistance Course

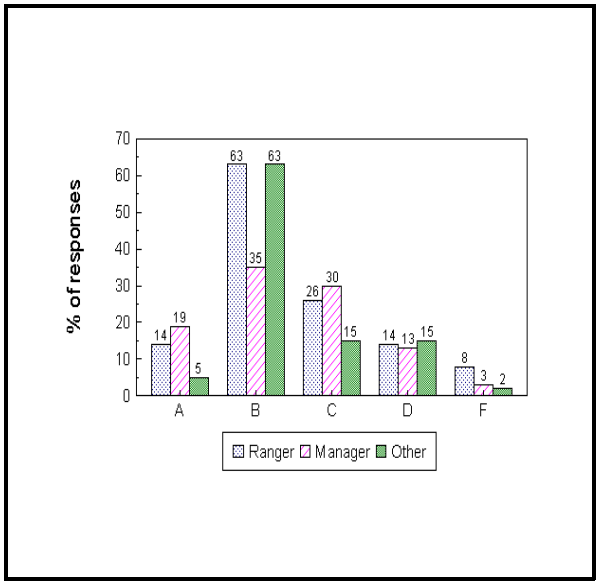


Figure 30. Visitor Assistance Update Course

Additional Training Courses

The overall responses addressing whether there is a need for additional ranger training courses clearly show a need. Sixty-eight percent of respondents who answered the question showed that a need for additional ranger training courses exists, 25 percent were uncertain and 7 percent believed that additional training was not needed (see Figure 31).

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Question 25 asked respondents to

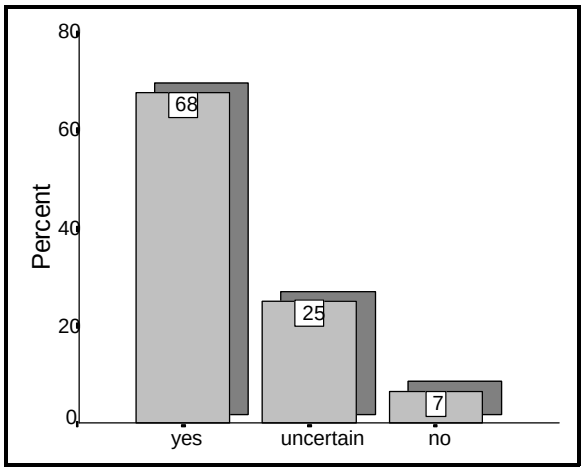

Figure 31. "Is there a need for additional ranger training courses?"

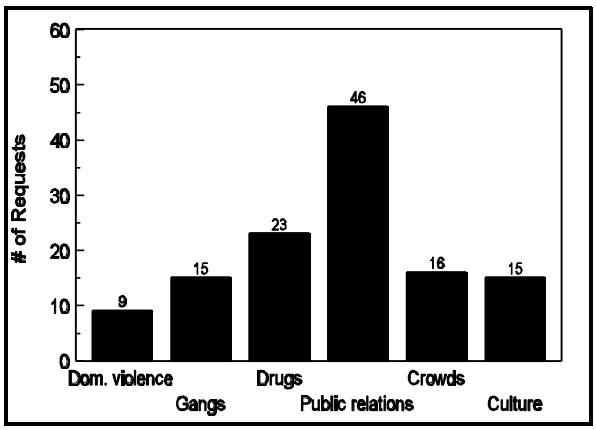

Figure 32. Training Courses that Consider the Public and Societal Problems

While participants requested many specify additional training courses that they wished were provided during training; 890 responses were recorded. The following is an analysis of these responses. Results are expressed as frequencies of requests and as percentages of total requests. Appendix D illustrates the requested topics for additional training courses and the associated frequency distributions.

The most frequently requested course topic was training in dealing with the public and societal problems (124 requests, 14% of all requests). Figure 32 illustrates a break down of these requests. Most respondents wished to have better training in relating to the public (46 requests, 40% of requests for this course type), and in identifying drug and alcohol abuse (23 requests, 20% of requests for this course type). There were roughly equal number of requests for training in crowd control, gangs, and cultural awareness. A handful of respondents wished for training in dealing with domestic violence (9 requests, 8% of requests for this course type).

different training topics, combined requests for self defense, communication skills, conflict management, and law enforcement, amounted to over half (470) of all requests (see Figure 33). Requests for additional self defense courses (22% of total requests) more than doubled those for law enforcement (10% of total requests), communication skills (10% of total requests), and conflict management (9% of total requests).

The requests for instruction in law enforcement included a variety of subtopics. There were ninety-six (10%) requests for law and law enforcement. A few of the topics that made up requests for law and law enforcement were. There were several requests for courses in law (12 requests), Corps policy (7 requests), and Title 36 (5 requests). There were also two requests for no training in law enforcement. Several participants also requested a topic closely related to law enforcement (15 requests), they specifically asked for a "ranger academy," which is similar to a police academy

There were also several requests for courses in disaster prevention and training (124 requests, 14% of total requests). Courses of this type included a variety of subtopics. Emergency training was the most frequently requested type of disaster training course requested (41 requests, 33% of requests for courses in disaster prevention and training). Several participants requested training in situation analysis (36 requests, 29% of requests for courses in disaster prevention and training). Situation analysis was defined as learning how to identify and avoid dangerous situations. Several participants felt the need to learn water (24 requests, 19% of requests for courses in disaster prevention and training) and fire safety (14 requests, 11% of requests for courses in disaster prevention and training). Lastly, a few participants wanted courses in defensive driving (9 requests).

Topics That Need to Be Added to Existing Visitor Assistance Training Courses

Many participants expressed a desire to expand the breadth of Visitor Assistance training courses. Question 23 asked participants to specify topics that they wished to be added to existing Visitor Assistance training courses. There were 698 responses to this question. The following is an analysis of these responses. The results are expressed as frequencies of requests and as percentages of total requests.

Appendix E illustrates the requested topics for training courses and their frequency distribution. The four most frequently requested course topics that comprised at least 10 percent of the total responses are self defense, communication skills, conflict management, and law enforcement (see Figure 33). The most frequently requested course topic was self defense that comprised 22 percent of the total responses to question #23. Many participants expressed a desire to have frequent updates and refresher self defense courses. Furthermore, some participants suggested a need for more in-depth instruction on self defense techniques and requested that the courses be lengthened. Occasionally, the requests for self defense were coupled with requests for crowd control (22 requests, 3% of all requests).

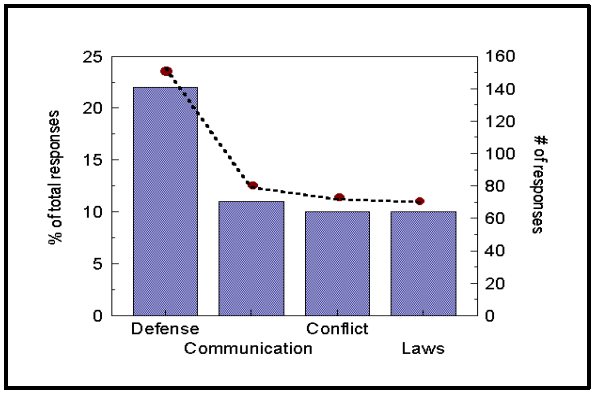

Figure 33. The Four Most Frequently Requested Training Course Topics (self defense, communication skills, conflict management, laws and their enforcement) expressed as both percentages of the total responses (N=698) and number of responses.

Communication skills were the next most frequently requested course topic (79 requests, 11% of all requests). Many requested that non aggressive communication skills be taught. The requests for conflict management and law enforcement each

amounted to 10 percent of the total requests. Nearly one-third of the requests for courses in laws and enforcement mentioned Title 36 enforcement (11 requests, 15% of the requests for this type of class) and court room demeanor (11 requests, 15% of the requests for this type of class).

There were numerous requests for courses focusing on situation analysis (45 requests, 6% of the total requests). Many participants expressed a desire to recognize and thus, avoid dangerous situations. Several respondents believed that these dangerous situations were caused by alcohol and drug abuse. Thirty-four requests (5% of total requests) for courses dealing with alcohol and drug abuse reflected perceived dangerousness of alcohol and drugs. Similarly, the requests for training in writing citations and reports were frequent (32 requests, 4% of total requests).

Several participants expressed a need for gang and cult awareness (31 requests, 4% of total requests), specifically, how to deal with gangs safely. Similarly, the requests for training in public relations were frequent (25 requests, 4% of total requests). Related to these topics, several participants stressed the need for cultural awareness (22 requests, 3% of total requests).

Several requests for specific technical training courses were made. The requests for classes in emergency training (14 requests), vehicle stops and approaches (14 requests) and investigation techniques (11 requests) each amounted to two percent of the total requests.

CHAPTER 7

MANAGEMENT and RESOURCES

This chapter addresses management and their level of concern toward safety matters. It also addresses resources used to support daily operations at Corps projects and the adequacy of those resources. How do these issues relate to safety? Since providing safety is explicit in duties that Corps personnel carry out, wherever adequate management/supervisory and resource support are not provided, safety consequently may be threatened.

Management Concerns About Safety

Questions on the survey about this topic looked into higher management concern and how supervisors listened. Overall perceptions and group perceptions of managers, rangers and professional personnel were examined. More than 50 percent of all employment groups agreed that higher management was concerned with safety issues, but rangers reported the highest percent (29%) in disagreement (see Figure 34). Nearly 30 percent, (242 rangers) do not believe that higher management is concerned about safety issues that confront Corps projects. This is a problem, failing to show concern implies that these various issues are not important enough to address. Respondents to the questionnaire perceived supervisors to be more attentive than managers to safety concerns raised by rangers. At least, 80 percent of respondents in all three employment categories agreed that supervisors listen (a total of 992 respondents out of 1,215).

Support Resources

Support resources refer to monetary or people oriented resources that have been allocated for specific purposes. Factors examined included staffing, general funding, facility improvements, general maintenance funding, policy guidance, contracting assistance, office of counsel assistance, law enforcement agreements, magistrate and US Attorney. Table 15 shows the adequacy ranking of each support resource and the actual percent breakout of each response category. Support resources appeared most adequate for law enforcement agreements but least adequate for staffing. The number of responses addressing staffing is similar across categories of adequacy; overall no strong opinions about the adequacy or inadequacy of staffing support resources exist.

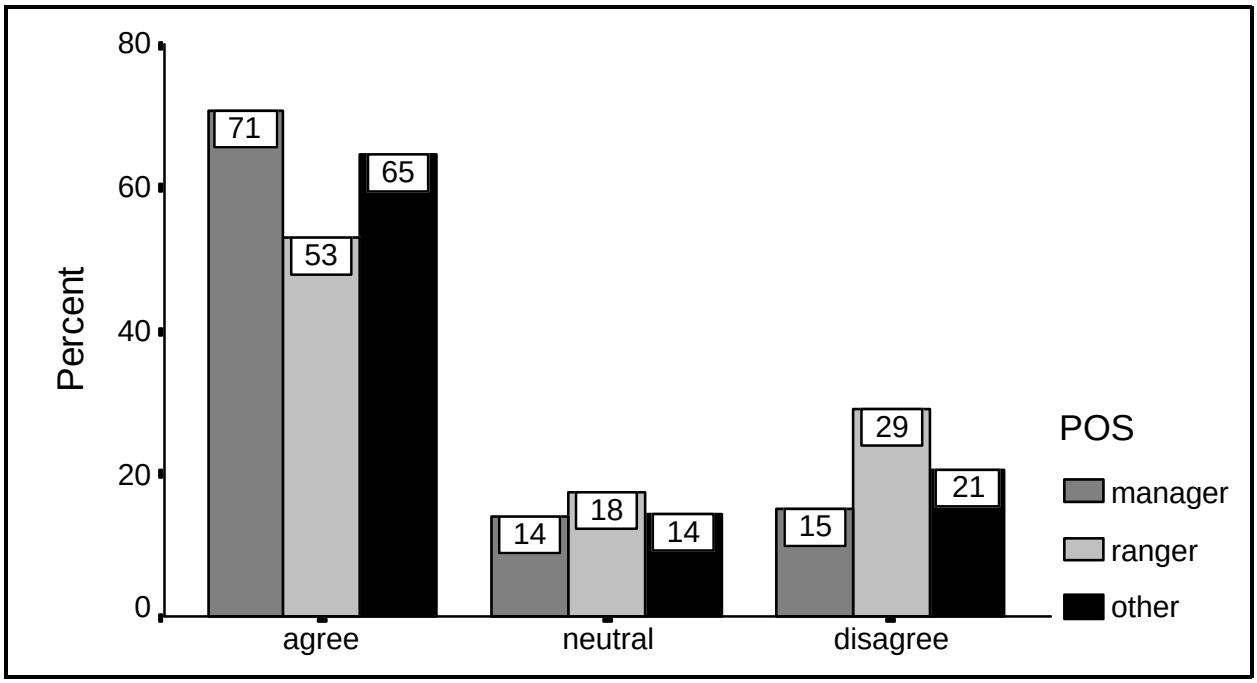

Figure 34. **Managements Concern with Safety**

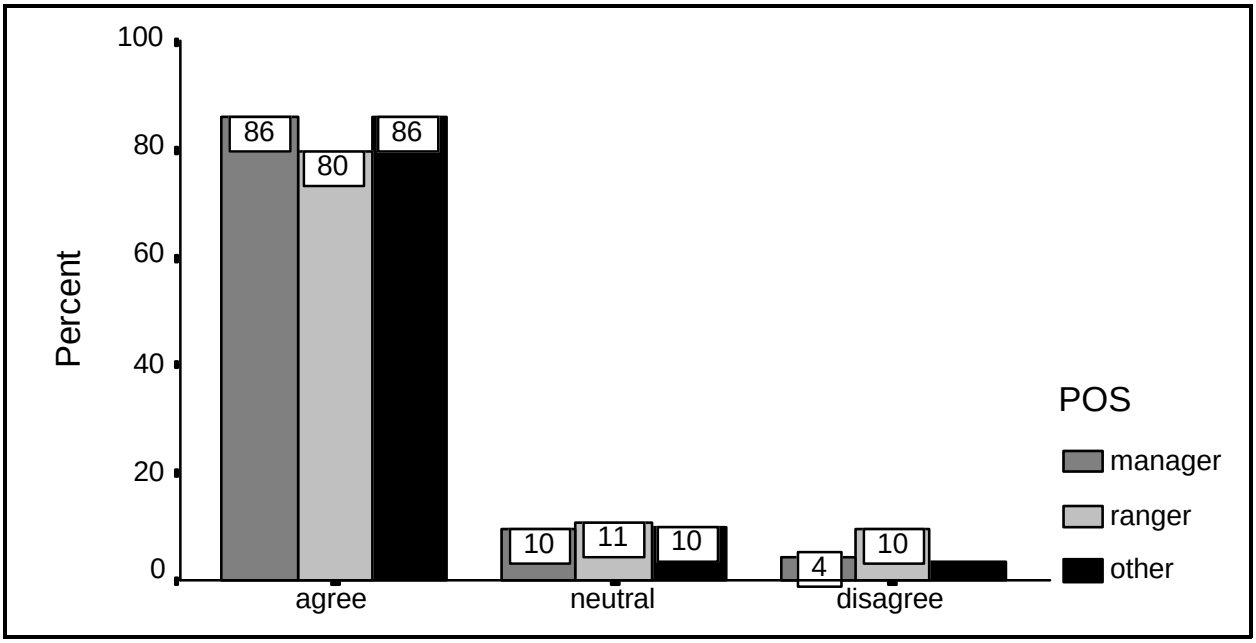

Figure 35. **Supervisors Listen**

Table 15. Ranking Adequacy of Support Resources

	Resources	Adequate	Somewhat Adequate	Inadequate	total %	N=
1	Law Enforcement Agreement	59%	24%	17%	100	1219
2	Magistrate	55	28	17	100	1207
3	US Attorney	54	29	17	100	1194
4	Facility Improvements	53	31	16	100	1247
5	Contracting Assistance	49	34	17	100	1235
6	General Maintenance	46	34	20	100	1242
7	Office of Counsel Assistance	42	34	24	100	1219
8	General Funding	41	37	22	100	1245
9	Policy Guidance	40	33	27	100	1236
10	Staffing	37	32	31	100	1251

CHAPTER 8

CONCLUSIONS

A significant fraction of rangers consider personal safety to be a problem on the job. Many see the problem as growing worse. Almost two-thirds of the rangers have been verbally abused by visitors in the past three years; more than one in ten has been physically assaulted. Respondents provided their views on how key elements of the Visitor Assistance Program (equipment, law enforcement agreements, training, management, and resources) contribute either positively or negatively to their personal safety and to that of visitors at Corps projects.

Corps personnel generally believe that the public has an unclear image of rangers, seeing them both as law enforcement officials and service oriented visitor assistants. Visitors may not know exactly what role rangers are supposed to play. To manage safety better, visitors should be aware of the limits of a ranger's authority.

Protective equipment perceived as most important was blood borne pathogen protection. The 90's and the results of a rising awareness of diseases transmitted through the blood may be directly related to the popularity of this equipment.

Law enforcement agreements appeared to exist throughout the Corps and the service received because of the agreement appeared mostly adequate. Yet, there were some problems contacting law enforcement 3 out of 10 times. The obvious safety hazard is that during the 3 times when no law enforcement is present, Corps staff and visitors are rendered vulnerable. The agreements need to be implemented as close to 100 percent as possible, and in possible life threatening situations 30 percent of error should be unacceptable.

Training used to equip staff with skills and knowledge that will enable them to take on ranger duties at Corps projects is a major area of concern. Skills perceived as important by staff were: communication, public relations, conflict management, title 36 rules and regulations, and water safety. Skills such as these are critical to the Visitor Assistance Program and the more thorough the training concerning these skills, the more effective Corps project personnel will be.

Currently, there are five training courses offered to rangers throughout their tenure with the Corps. The worse rated course was the Visitor Assistance Basic Course; better rated courses were Refresher Visitor Assistance, Advanced Visitor Assistance, and Personal Protection Training. The ratings of these courses by project staff, not only shed some light on how well various project staff believe material was covered throughout the course; it also gave a picture of how well the courses trained. Some clear shortcomings exist. Ultimately, the more comprehensive and successful the training, the better staff will be equipped to use their training in unsafe and peculiar situations. Based on rating results of the various courses, Visitor Assistance Basic was rated the worse out of all the courses. Restructuring of this course is warranted.

Concerns about safety and support resources were covered. Both, management and supervisory concerns about safety were

examined. Managers were perceived to be less attentive than supervisors to safety concerns that Corps staff introduced. Management needs to communicate its concern for safety to the workforce more effectively to change this perception.

Corps personnel are faced with potentially dangerous situations from time to time. Some Corps projects inhibit these situations more frequently than others. This study illustrates that visitors and project staff experience verbal abuse, physical threats, and worst yet, physical assaults. Through training, having the appropriate equipment and assistance from the proper agencies, and support of the people they work with, project staff can be better prepared to handle these situations.

Lastly, outside forces that directly or indirectly contribute to abuse and threats of visitors and Corps staff need to be managed differently. Alcohol is a problem. It was considered the number one contributor to "hostile behaviors" by project personnel. A great number believed it should be prohibited at Corps projects. Since the objective is to make Corps projects safer places, then a review of policies on alcohol use is warranted and solutions that will reduce the unsafe situations that visitors and staff have been encountering are essential.