

Phase I of Analysis of Assaults on National Park Service Rangers

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Introduction to the Study

Statement of the Problem:

Current raw data suggests that Law Enforcement Rangers¹ in the employ of the National Park Service (NPS) have the highest rate of victimization for assault of all Federal Law Enforcement Agents. The unrefined data suggest an assault rate that varies by year from a low of 34.45 to a high of 45.81 assaults per 1,000 full-time NPS Law Enforcement Personnel (Rangers and U.S. Park Police are combined to arrive at these figures. During the same period all other Federal agencies charged with some form of law enforcement reported assault rates per one-thousand that are much lower. The average for a combination of other Federal Agencies ranges from a low of about 3.5 to a high of 9.5 per one-thousand employees. The primary focus of this study, noted in more detail later, is to verify these figures for accuracy and to determine, if possible, the nature of the assaults.

The International Association of Chiefs of Police, in their study of NPS' law enforcement program, concluded that NPS rangers suffer the highest rate of assaults of any Federal law enforcement agency. (*Policing the National Parks: 21st Century Requirements*.

¹ Referred to in this report as NPS Rangers or Rangers.

page 4) Between 1998 and 2002 three rangers have been murdered by gunfire and several others have been engaged in deadly encounters.

While a number of common-sense actions to strengthen equipment and training have been taken, to this point no careful epidemiological study has been conducted to determine the accuracy or reasons for this disturbing condition. The purpose of this study has been to conduct the first step in addressing the high number of assaults; the verification and quantification of the problem.

This IACP finding, if true, certainly contradicts the general public image of the setting in which NPS Rangers work. This problem, left uninvestigated and/or unresolved, may also diminish NPS' mission. Additionally, if left unresolved, this problem could cost the NPS in terms of lost work days, high medical costs and continued injury to NPS personnel.

Stated Purpose of the Study:

The purpose of this project (actual methodology is discussed later in this report) is to gather the existing aggregate data and track that information back to the actual incident reports in which the assault was reported. The incident reports will be analyzed to determine:

1. Whether the actions were properly coded as an assault (consistent with the FBI reporting standards);
2. The nature of the assault (weapon vs. non weapon);
3. The extent of injury to the Ranger;
4. The type of perpetrator if possible;
5. The facts surrounding the assault;
6. The involvement of alcohol use on the part of the perpetrator; and,
7. The actual location of the assault.

The initial outcome of this project is the completion of the analysis of the assaults with an eye toward training and policy recommendations aimed at improved employee safety (see objectives listed below).

Research Objectives:

1. Verify (for accuracy and reliability) and quantify the IACP's findings.
2. Seek NPS procedures which might provide inaccurate statistics and therefore mis-represent the problem.
3. Prepare statistical and narrative analysis of the cases.
4. Provide written reports to the NPS which documents the above findings.
5. Develop an investigative plan and budget to determine causation and recommendations for resolution of the assault problem. This plan may recommend such techniques as:
 - a. Interview involved rangers to determine their mental and physical preparedness, and their actual and perceived operating conditions.
 - b. Interview those persons arrested or convicted of assaults to determine the conditions they perceived which gave rise to the assault.
 - c. Seek relevant differences between NPS training, preparedness, operating environment, program supervision or other conditions and those of other agencies. These differences may account for the higher NPS assault rate.
 - d. Survey representative portion of NPS enforcement rangers and /or supervisors, and/or managers, etc., as necessary to determine the distribution of the causative condition.

Statement of Work:

The purpose of this agreement was to foster a cooperative working relationship between faculty and staff at Northern Arizona University (NAU) and National Park Service (NPS) staffs to conduct a statistical evaluation and causality study of the assault rate on NPS

rangers, to recommend required safety changes, and to report to the agency. Several additional informal communications with agency stakeholders, such as articles in professional magazines, will be required in addition to the final investigators report and recommendations. The initial planning work began in early 2002 and has continued to the present. This agreement served to identify the specific responsibilities of each partner (including but not limited to plan development, approach and methods, evaluation and financial obligations) from inception of the agreement until the study has been conducted and evaluated and a final report of recommendations is written.

Responsibilities

The role of the principal investigator involved oversight of all aspects of the statistical evaluation, problem identification, and plan development. The principal investigator was also responsible for completion of required reports and publications. Finally, the principal investigator was responsible for maintaining security over any sensitive data including personnel identifiers and work products which have not been approved for distribution by the National Park Service.

The principal investigator coordinated all conference calls and on-site meetings, informing participants of agendas, times and locations, and maintaining open communications with members of the development and instructor teams.

Co-principal investigator Dodd, also a NPS commissioned employee, facilitate records retrieval from the various NPS sites. He also served as a subject matter expert on NPS records systems, and access and coding procedures, as and assisted in design of the subsequent research project and budget to ensure NPS operating conditions were accurately represented. Finally, he served as data analyst reviewer of the records.

The National Park Service, through special agent Johnson (now retired) and Special Agent Burnett provided access to all necessary statistical information (which was redacted to remove personal information not required for this project). They, along with Mr. Dodd, also reviewed the project methodology and assisted the Principal Investigator in problem identification and solution development.

Deliverables:

- The first deliverable is a report detailing the completion of objectives 1 and 2 listed above: verification and quantification of the IACP's findings, and the identification of NPS procedures, if any, which might provide inaccurate statistics and therefore mis-represent the problem. See approach and methods below for a discussion of this work.
- The second deliverable is a report comparing the verified NPS statistics to those of other federal land management agencies, and to a representative sample of other Federal law enforcement agencies.
- The third deliverable is a statistical and narrative abstract of the NPS assaults listing such relevant criteria as time of day, day of week, type of call resulting in the assault, the number of officers present, types of weapons used by all parties, and a narrative summary of the events.
- The fourth deliverable is the investigative plan and budget described above in objective number 5.

Two paper copies and an electronic copy of each of the above deliverables are being provided to the National Park Service criminal investigative office at Shenandoah National Park, 3655 U.S. Highway 211 East, Luray, VA 22835. attn: supervisory special agent Skip Wissinger.

The final report contains a report abstract that is suitable for public distribution. Two paper copies and an electronic version of the final report are also being provided to the Colorado

Plateau Cooperative Ecosystem Studies Unit prior to final payment. The address is: Research Coordinator, NPS, CPCESU, Northern Arizona University, P.O. Box 5765, Flagstaff, AZ 86011.

Operationalization of Variable

Definition of Assault

While issues such as the nature of the assault, the type of weapon used (if any), time of day, demographics of the suspect and injury to the ranger are important to this study, the primary goal is the verification of the reporting of assault; thus, we will start with the operationalization of this variable.

One of the first decisions to make in a study of this nature is to determine the operational definitions of the variables that are to be used or evaluated. This task must be completed prior to a review of the actual data so that the results of the study do not actually drive the development of the definitions. There is no single definition of assault and, in fact, the term assault is often confused with the term battery. In the strict common law, assault is an attempted battery. Battery is defined as the unwanted touching of one party by another. This, of course, is an overly simplistic definition given the complexities of today's society.

For the purposes of this study the following definitions of assault and battery have been considered in the development of the operational definition:

- a) A person is guilty of simple assault if, having the present ability to do so, he unlawfully attempts to cause bodily injury to another.
- b) A person is guilty of battery if he unlawfully touches another in a rude, insolent or angry manner or intentionally, knowingly or recklessly causes bodily injury to another (Wyoming Criminal Code ARTICLE 5 - 6-2-501. Simple assault; battery).

Another variation of assault/battery is:

A person who knowingly or intentionally touches another person in a rude, insolent, or angry manner commits battery (Montana Criminal Code).

OR

- (1) A person commits the offense of assault if the person:
 - (a) purposely or knowingly causes bodily injury to another;
 - (b) negligently causes bodily injury to another with a weapon;
 - (c) purposely or knowingly makes physical contact of an insulting or provoking nature with any individual; or
 - (d) purposely or knowingly causes reasonable apprehension of bodily injury in another (Indiana Criminal Code).

The Federal Criminal Code and Rules (FCCR), (as amended to January 26, 2004) defines assault as: forcibly assaults, resists, opposes, impedes, intimidates, or interferes with any person designated in section 1114 of this title while engaged in or on account of the performance of official duties . . . (18§111).

The FCCR is a more far-reaching definition of assault than the others in that it includes resisting, opposition, impeding, intimidation and interfering. This is a methodological issue that can be dealt with through various variable coding schemes that allow for comparison analysis using one or another definition as the baseline definition against which other definitions are compared. For example, passive resistance would generally not be classified as an assault on an officer under various state laws but might be coded as an assault under the FCCR. The same might apply to impeding, intimidation, interfering, opposition or flight, something not mentioned in the FCCR, but apparently included.

Uniform Crime Reporting (UCR) Program (Operational Definition of Assault)

Statistics on assaults on law enforcement officers are collected in the UCR Program. The definition of assault is operationalized as follows:

“Law enforcement agencies report the number of assaults resulting in serious injury or instances where a weapon was used which could have caused serious injury or death. Other assaults are recorded only if they involved more than verbal abuse or minor resistance to an arrest.”²

² Source: Police Officers Killed and Assaulted, Uniform Crime Report. 1997 Page 1 Methodology Section

National Incident-Based Reporting System (NIBRS) Definition of Assault

Rather than paraphrase the language used by the NIBRS, we will quote verbatim from Section II. Offenses, Sources of Offense Definitions.

“The definitions that were developed for NIBRS are not meant to be used for charging persons with crimes. To the contrary, they are meant to be receptacles or pigeonholes for reporting crimes that are committed throughout the United States. State statutes must be very specific in defining crimes so that persons facing prosecution will know the exact charges being placed against them. On the other hand, the definitions used in NIBRS must be generic in order not to exclude varying state statutes relating to the same type of crime.

Accordingly, the offense definitions in NIBRS are based on the common-law definitions found in *Black’s Law Dictionary*, as well as those used in the *Uniform Crime Reporting Handbook* and the NCIC Uniform Offense Classifications.”

13A-13C ASSAULT OFFENSES (Crimes Against Persons)

Definition: An unlawful attack by one person upon another.

a. 13A Aggravated Assault

Definition: An unlawful attack by one person upon another wherein the offender uses a weapon or displays it in a threatening manner, or the victim suffers obvious severe or aggravated bodily injury involving apparent broken bones, loss of teeth, possible internal injury, severe laceration, or loss of consciousness.

Note: Aggravated Assault also includes assault with disease (as in cases when the offender is aware that he/she is infected with a deadly disease and deliberately attempts to inflict the disease by biting, spitting, etc.). This usually includes offenses such as Pointing and Presenting a Firearm, Brandishing a Firearm, etc. A severe laceration is one that should receive medical attention. A loss of consciousness must be the direct result of force inflicted on the victim by the offender.

For the purposes of the above definition, a weapon is a commonly known weapon (a gun, knife, club, etc.) or any other items which, although not usually thought of as a weapon, become one when used in a manner that could cause the types of severe bodily injury described in the above definition. For NIBRS purposes, mace and pepper spray are considered to be weapons.

b. 13B Simple Assault

Definition: An unlawful physical attack by one person upon another where neither the offender displays a weapon, nor the victim suffers obvious severe or aggravated bodily injury involving apparent broken bones, loss of teeth, possible internal injury, severe laceration, or loss of consciousness.

c. 13C Intimidation

Definition: To unlawfully place another person in reasonable fear of bodily harm through the use of threatening words and/or other conduct but without displaying a weapon or subjecting the victim to actual physical attack.³

Operationalization of Assault for this Study

For the purposes of this study assault will be operationalized in two ways. While it might seem confusing to use two different definitions of assault the resulting answers are a part of the verification required in the contract with the NPS. Verification of data starts with an agreed upon definition of the values within each variable or even the definition of the variable itself. Given the many possible definitions of assault on an officer used by the agencies contacted by the researchers it became important to this study to develop the two typologies described below. The later analysis will also provide some insight to potential coding problems when the LEOKA (Law Enforcement Officers Killed or Assaulted) information is forwarded by NPS to LEOKA for summary in the yearly reports.

The first typology involves a fairly restrictive definition of assault, which does not include such behaviors on the part of the suspect⁴ as flight, minor resisting, verbal abuse, non-compliance/uncooperative behavior, and/or interfering. Behavior included in the more restrictive definition includes attempts to assault (with or without a weapon), spitting on the victim, and physical assault (with or without a weapon). This definition appears to fit more closely with the

³ Source: NIBRS: Volume 1: Data Collection Guidelines, Pages 22-23, August 2000.

⁴ Suspect is the term used to describe the subject of the investigation or arrestee.

definition mentioned in the UCR methodology section (as noted above) and with several state laws (including but not limited to those above). The definition also fits more closely with how other Federal Agencies charged with law enforcement define assault on their officers.

The second method of operationalization is more inclusive in that it includes suspect behavior apparently used by the NPS to record assaults on NPS Rangers such as those noted in the FCCR 18§111 or CFR 36 § 2.32,(Interfering with agency functions) as assaults⁵. This definition is somewhat apparent based on the information included in the reports that were coded as assaults on law enforcement officers by the NPS

In sum, for this analysis the following values were used to classify the information contained in the reports.

1. Yes, There was evidence of a physical assault on an NPS Ranger
2. Evidence of passive resistance without a physical assault on a ranger
3. Evidence of verbal abuse without a physical assault on a ranger
4. Evidence of flight without a physical assault on a ranger
5. Evidence of a combination of passive resistance, verbal abuse and/or flight without a physical assault on a ranger
6. Evidence of a failure to comply or uncooperativeness without evidence of a physical assault on a ranger
7. Assault was on another party, not a ranger
8. No evidence of assault on a ranger or other party

To define the difference between the more inclusive and less inclusive definitions of assault (as again noted later) we collapsed categories 2, 3, 4, 5, and 6 into category 1 to meet the more inclusive definition of assault (above coding scheme).

Operationalization of Other Variable in the Study

In addition to defining assault other variables were operationalized. These included the race, age and gender of the suspects, the park, time of day, initial call, and number of rangers responding or present at the beginning of the investigation and the number of rangers responding or present by the end of the investigation. Additional information collected included the type of

⁵ There are some inconsistencies in this which will be reported on later in this paper.

weapon used by the suspect, nature of injury to the ranger, type of control used by the ranger, reason for the suspect to be in the park, and nature of the assault (A copy of the Code Book is attached in Appendix A).

Reporting Parks

The coding of the park in which the incident occurred was straight forward. Each reporting park was given a reference number. The one minor exception to this was that all parks in the National Capital Region were coded as one park rather than with separate numbers for each park in that region.

Time and Date of Incident

The date and time of the incident was recorded. The time of the incident was recoded into categories for easier analysis. The recorded categories are Evening (18:00 to 24:00), Early Morning (00:01 to 06:00), Late Morning (06:01 to 12:00), and Afternoon (12:01 to 17:59). This is not an arbitrary coding, but is based on the intensity and type of crime that is most likely to occur within those time periods.

Original Call/Nature of Investigation

Based on the narratives provided with the reports a coding scheme was developed to describe the original call or incident which led to the investigation reported. The coding included the categories of Investigation (a general category of other), Disturbance/disorderly, Theft, Domestic Violence, Intoxicated Person, Other Agency Assist, Suspicious Person, Out-of-Bounds Camping/Fee or Permit issues, Fire Restrictions, DUI/ Other Traffic Stop, Vandalism, Non-criminal Investigation, Mental Cases, Drug Use, and Destruction or Theft of Natural Resources.

Number of NPS Rangers Present

The number of officers present during the initial investigation or response was recorded as were the total number of officers present or involved by the end of the incident. Additionally, assistance by other agency was recorded (either yes or no).

Use of Force

The force used by the ranger was coded in the following categories: Verbal Commands, and Soft/Open Handed Control, OC Spray, Baton, Leg Restraints, Side Arm, Long Gun, Shotgun, and Other. The first two categories were coded either yes or no; the remaining categories were coded deployed but not used, used, or not used.

Presence of Alcohol

The apparent use of alcohol or drugs by the suspect(s) was recorded as either present or not present. Where recorded by the ranger the blood alcohol concentration (BAC) was also recorded.

Prior Arrest/Prior Incident in Park

Notation of a prior arrest record or prior record of contact within the park was recorded as either yes, no or don't know/not mentioned in the report. Prior arrests or contact with park law enforcement is important to this report in that it reflects the level of contact with repeat offenders.

Reason for Being in the Park

The reason for the suspect's presence in the park was coded as park employee, concession employee or park visitor. The reason for being in the park is important for an understanding of the nature of the offense. It could also be important in terms of the contractual relationship between the NPS and the concession license holders.

Presence of a Weapon

The presence of a weapon was coded as either yes or no. A weapon includes any object that could be used to cause injury, other than a part of the suspect's body. A weapon generally includes such things as a vehicle, a knife, a gun, or a rock.

Nature of Assault

The nature of the assault was coded in the following way: grabbing or pushing, striking with hands, feet, or elbows or butting with head, biting, spiting, throwing of an object other than a knife (such as a rock, a chair, or other object), use of a knife to harm or threaten, use of a firearm to harm or threaten and use of a vehicle as a weapon.

Injury

Injury to the ranger was coded as cut, hit, scratched, bruised, body fluid projected and no injury. Other information such as treatment for injury, number of days off as the result of injury or long term effects of the injury were recorded in some reports. This information is analyzed separately using a qualitative method of reporting. **It is noted for the recorded that the researcher is aware of the deaths by violence of three rangers that seem to have occurred during the time period of this study; however, the reports of these incidents were not provided for review.**

Domestic/Traffic Related

In many law enforcement agencies domestic violence and traffic investigation/stops result in a large number of assaults on law enforcement officers. These two variables were recorded as being a part of the initial investigation or call for services (yes or no).

Demographic Nature of Suspects

Where available or reported the age, race and gender of the suspect were recorded.

Missing Variables

Variables that were not available which could be of importance include: age of ranger, length of service, primary duties (if the ranger has duties in addition to that of law enforcement), type of appointment (full-time or seasonal), demographics of ranger, and record of training.

Study Data Collection, Methodology, Results and Conclusions

Methods

NPS Reporting System and Data Collection Problems

The NPS lacks a coherent service wide reporting system. This prevented collection of some of the relevant reports necessary for this study. NPS statistical reports are compiled at 380⁶ park sites from a variety of data sources ranging from DOS based computer programs to hand-counting. This information accumulates by paper documents from Parks to Regions to the NPS office at the Federal Law Enforcement Training Center where the annual report to the Federal Bureau of Investigation is compiled.

It appears that the NPS has a similarly distributed method of assigning offense codes to reports. This resulted in an inconsistent method of coding offenses.⁷ In most cases individual rangers select codes from a list which offers titles and numbers, but no guidance for selecting among several options. Additionally, there appears to be inconsistency between parks as to what gets reported to the central data collection point as an assault on a ranger. As a result, for the purposes of this study, a coding system was created that was consistent with research purposes.

For these reasons and, more importantly, to ensure a careful statement of the problem to be solved, this project endeavored to obtain original data in the form of case reports from parks

⁶ Source: Ken Johnson.

⁷ The researchers received copies of several reports that NPS staff felt should have been, but were not, reported in LEOKA as assaults. Most of these reports involved assaultive behavior, as defined in the broader sense, and were very similar to other reports in which the assault was reported in LEOKA. While this was not a large number of reports, it does illustrate a lack of consistency in reporting.

which reported relevant assaults over the last 5 years. These reports were then evaluated against FBI Uniform Crime reporting standards to ensure proper coding.

As noted by Dawn Hubbs, some problems were encountered with information provided by the parks. For those reports received, insufficient information was the most common issue. Several reports were missing weapon codes or the narratives and suspect information was incomplete.

The biggest problem involves lack of reports or non-reporting by the individual parks. The major source of the problem appears to be failure of the individual parks to send the reports to the researchers. The stated reasons for not sending reports included an unwillingness to sending reports under active prosecution or investigation (despite the availability of NPS study team members to redact sensitive information), inability to find the reports, sending reports that were outside of the study period or sending incomplete reports (incomplete to the point that no evaluation could be done). One of the most puzzling reasons for not sending reports involves what appears to be passive resistance. We received about 15 telephone calls from individuals reporting that there had been assault(s) in the park in which they worked; however, they either did not have time to look for the report or had the report in hand but did not have time to send it. As noted, some parks and individuals sent reports that were not reported centrally as assaults, but the individual sending the reports felt that they should be included because they should have been recorded as assaults.

Despite these puzzling data collection problems, the principal investigator believes that a sufficient number of reports were sent to provide a representative sample that could support generalizations from those reports to all other similar incident.

Data Collection

To collect the physical reports on which the analysis was based emails and in some cases telephone calls were made to both regional and individual park employees in a supervisory position with the NPS that would give them access and authority to collect and send the reports. The contacts were followed up by a request from Dennis Burnett. The reports were mailed or faxed to the principle investigator at Northern Arizona University.

Data Analysis and Verification

The first step in the actual analysis and verification involved a review of the coding of all reports by Dawn Hubbs. The starting point for this evaluation was the use of previously agreed upon common definitions of assault. It was agreed upon in advance that Larry Gould (Principle Investigator) and Dawn Hubbs (Research Associate) would review the files independently of each other and, with the exception of the use of the term assault as defined previously, all other variables would be categorized independently. This method allows for a cross-checking of information, but more importantly it insures that no information is lost as the result of using a predetermined coding system by both investigators.

The second step in the analysis, independent of the first step, involved the development of a coding scheme by the PI. Again, the assault variable coding remained constant for both investigators.

The third step of the analysis involved a review, by Stephen Dodd, of all reports that had not been coded as an assault. The rationale for this approach, simply stated, is that the Principal Investigator and the Research Associate were more likely to code an incident as not being an assault than would be the case with a practicing law enforcement officer. Mr. Dodd reviewed each case in which either of the researchers felt that there was no assault.

The inter-rated reliability⁸ among all three reviewers was extremely high. In only five of the sixty cases forwarded to Mr. Dodd for additional review was there disagreement. In two cases an assault had clearly occurred; however, one or the other of the researchers had missed an element of the assault. One case was an assault that had simply been miscoded (all agreed that it was an assault). In the last two cases, after discussion between the Principle Investigator and Mr. Dodd, the coding was changed to the category of an assault having occurred.

Results

The results for this part of the study are reported in two sections. The first section is quantitative analysis and includes the more objective results of the study. It includes information about the assaults such time of assault, gender of the suspect, type of weapon, reaction of the NPS Ranger and nature of the assault. The second section focuses on training issues and is more qualitative in its approach.

QUANTITATIVE ANALYSIS

Reporting Parks

The number of incidents of assault as reported by the parks that responded to our inquiry is reported in Table 1. It should be noted that the number of assaults does not equal the number of reports for two reasons. The inquiry is based on the number of assaults, not on the number of reports. In a single incident more than one ranger may have been assaulted or more than one individual may have assaulted a single ranger. A table illustrating the number of reported assaults by state and year (1997 through 1993) is located in Appendix B.

⁸ Inter-rater reliability is a measure of agreement among two or more people evaluating the same information. The greater the agreement among the evaluators, when information is evaluated independently, the greater the confidence in the overall evaluation.

Table 1. Responding Parks (97-03)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Grand Canyon	14	9.9	9.9	9.9
	Big Bend	1	.7	.7	10.6
	Saguaro NP	5	3.5	3.5	14.2
	Voyageurs NP	7	5.0	5.0	19.1
	St Croix National Scenic Waterway	1	.7	.7	19.9
	Yellowstone NP	28	19.9	19.9	39.7
	Petrified Forest NP	1	.7	.7	40.4
	Natchez Trace	5	3.5	3.5	44.0
	Organ Pipe NP	2	1.4	1.4	45.4
	Mammoth Cave NP	2	1.4	1.4	46.8
	Cumberland Gap	1	.7	.7	47.5
	Glacier NP	1	.7	.7	48.2
	Curecanti NRA	1	.7	.7	48.9
	Chaco Culture NHP	1	.7	.7	49.6
	Glen Canyon NRA	5	3.5	3.5	53.2
	Lincoln Home NHS	1	.7	.7	53.9
	Indiana Dunes National Lakeshore	9	6.4	6.4	60.3
	Golden Gate	2	1.4	1.4	61.7
	Wind Cave NP	1	.7	.7	62.4
	Sleeping Bear Dunes NL	1	.7	.7	63.1
	Lake Mead	8	5.7	5.7	68.8
	Lassen Volcanic	2	1.4	1.4	70.2
	Joshua Tree	7	5.0	5.0	75.2
	Rocky Mountain NP	4	2.8	2.8	78.0
	National Capital Region	9	6.4	6.4	84.4
	Jefferson	14	9.9	9.9	94.3
	Yosemite	8	5.7	5.7	100.0
	Total	141	100.0	100.0	

Number of Rangers Initially Responding versus Number of Rangers Finally on Scene

In many cases the greater the number of law enforcement personnel initially on the scene of an incident the lesser the likelihood that an assault will occur. Analysis suggests that more rangers were assaulted when alone than when other rangers were present. Fifty assaults (61.7% of those cases in which a physical assault was reported) occurred when the ranger was alone or

prior to the arrival of backup by another law enforcement officer. Using the broader definition of assault, which includes flight, intimidation, interfering and resisting, there were 70 (64.2 % of the cases of assault) cases reported in which assault occurred when the officer was alone (see Table 2.).

Table 2. Number of Officers Responding * Broad Definition of Assault

			assaultrecode		Total	
			Assault (resisting, intimidation, flight, etc)	No elements of an assault		Assault occurred on another party
Number of Officers Responding	1.00	Count	70	20	3	93
		% within Number of Officers Responding	75.3%	21.5%	3.2%	100.0%
		% within assaultrecode	64.2%	74.1%	60.0%	66.0%
		% of Total	49.6%	14.2%	2.1%	66.0%
	2.00	Count	32	4	1	37
		% within Number of Officers Responding	86.5%	10.8%	2.7%	100.0%
		% within assaultrecode	29.4%	14.8%	20.0%	26.2%
		% of Total	22.7%	2.8%	.7%	26.2%
	3.00	Count	5	3	1	9
		% within Number of Officers Responding	55.6%	33.3%	11.1%	100.0%
		% within assaultrecode	4.6%	11.1%	20.0%	6.4%
		% of Total	3.5%	2.1%	.7%	6.4%
5.00	Count	2	0	0	2	
	% within Number of Officers Responding	100.0%	.0%	.0%	100.0%	
	% within assaultrecode	1.8%	.0%	.0%	1.4%	
	% of Total	1.4%	.0%	.0%	1.4%	
Total	Count	109	27	5	141	
	% within Number of Officers Responding	77.3%	19.1%	3.5%	100.0%	
	% within assaultrecode	100.0%	100.0%	100.0%	100.0%	
	% of Total	77.3%	19.1%	3.5%	100.0%	

In 93 (66 %) of the reported cases a single officer was involved in the initial call or investigation. In 29 (20.2 %) of the reported cases no other officer was either called for, arrived or otherwise responded. In at least two cases, as many as 15 officers eventually responded to the incident. In two cases no less than 5 agencies responded.

Initial Call or Investigation

It is not uncommon in law enforcement that the initial call will have little or nothing to do with the eventual elements of an incident. It is also common that the initial call or point of inquiry will lead to other events or investigations. Finally, many initial calls are classified in the simplest of terms such as an investigation or disturbance, when in reality they involve other, more identifiable, actions or behaviors. Table 3 depicts either the original call on which the officer was dispatched or the initial observation of the officer as based on the narrative in the reports. There does not appear to be a distinct relationship between the type of call and the occurrence of an assault, although later analysis does draw a distinct relationship between drug/alcohol use and the likelihood of assault. It should be noted that, regardless of whether one uses the broader or more narrow definition of assault disturbance calls, DUI stops and cases in which officers deal with mentally impaired individuals are somewhat, but not significantly, more likely to result in an assault on an officer.

Table 3. Type of Call

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Investigation	5	3.5	3.6	3.6	
	Disturbance/Disorderly	41	29.1	29.3	32.9	
	Theft	2	1.4	1.4	34.3	
	Domestic Violence	4	2.8	2.9	37.1	
	Drunk	8	5.7	5.7	42.9	
	Other Agency Assist	10	7.1	7.1	50.0	
	Suspicious Person	14	9.9	10.0	60.0	
	Out-of-Bounds Camping, Fire or Permit	7	5.0	5.0	65.0	
	Hunting/Fishing	5	3.5	3.6	68.6	
	DUI	13	9.2	9.3	77.9	
	Traffic Stop	8	5.7	5.7	83.6	
	Vandalism	1	.7	.7	84.3	
	NON Criminal	9	6.4	6.4	90.7	
	Mental Case	9	6.4	6.4	97.1	
	Drug Use	2	1.4	1.4	98.6	
	Destruction or Theft of Natural Resources	2	1.4	1.4	100.0	
	Total	140	99.3	100.0		
	Missing	System	1	.7		
	Total		141	100.0		

Calls For Assistance to NPS Rangers

In 33 (23.4%) of the reported incidents another law enforcement agency assisted the NPS Rangers. The agencies providing assistance include U.S. Park Police, Border Patrol, and a variety of state, county and municipal agencies. In five cases, assistance was called for by an NPS Ranger and no responding agencies were available or they were delayed beyond the time in which they could provide effective assistance. In four of the five cases in which there was a call for assistance to which there was no or delayed response, the ranger was assaulted after the call for assistance was made.

Types of Force Used by NPS Rangers

Use of force was classified into verbal commands, soft/open handed control, use or deployment of OC spray, baton, leg restraints, side arms, long guns (rifle), shotgun and use or deployment of other law enforcement tools such as spit masks or stop sticks. Verbal commands are defined as something more than simple instructions to produce identification, but do include instructions to approach or not approach the ranger when used as a control technique. There are also incidents in which no verbal communication between the ranger and the suspect occurred, such would be the case in which a pursuit was initiated and the suspect escaped or when the suspect fled the scene before the ranger had an opportunity to use any control methods. Use of soft/open handed control is defined as something more than assisting an intoxicated person to stand or walk; however, an incident could involve soft/open handed control when an intoxicated person was using some passive resistance or was not following verbal commands and had to be physically directed by the officer.

The use of handcuffs was not evaluated by the researchers. It is generally assumed that an individual under arrest will be handcuffed, that a person being issued a citation and not physically arrested will not be handcuffed, and that a person not being issued a citation or being arrested will not be handcuffed. It is noted that there are two cases in which the Principle Investigator believes handcuffing the suspect sooner would have decreased the likelihood of the assault and one case in which a ranger sought permission from a superior park employee to handcuff an individual who had assaulted that ranger.

Use of a defensive weapon is defined as actual use of the tool, such as spraying OC or use of a firearm, while deployment refers to incidents in which the ranger removed the tool from its holster and threatened use of it or held it ready for use. There is no recorded incident in which a long gun or rifle was used or deployed. Tables 4a through 4h illustrate the types and percent of

times force was used. While not a defensive tool, the one piece or type of equipment most needed, but not immediately available was a transport vehicle with a “cage” or partition that separated the arrestee from the ranger. In no less than 12 of the incidents in which a physical assault was reported a caged transport unit was called for. In 4 of the 12 incidents the assault occurred while the ranger was awaiting the arrival of the caged transport.

Table 4a. Verbal Commands Given

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	122	86.5	87.1	87.1
	no	18	12.8	12.9	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4b. Soft Handed Control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	75	53.2	53.6	53.6
	no	65	46.1	46.4	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4c. OC Spray

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Deployed but not used	8	5.7	5.7	5.7
	Used	14	9.9	10.0	15.7
	Not Used	118	83.7	84.3	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4d. Baton

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Deployed but not used	3	2.1	2.1	2.1
	Used	5	3.5	3.6	5.7
	Not Used	132	93.6	94.3	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4e. Leg Restraints

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Used	4	2.8	2.9	2.9
	Not Used	136	96.5	97.1	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4f. Side Arm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Deployed but not used	8	5.7	5.7	5.7
	Used	3	2.1	2.1	7.8
	Not Used	130	92.2	92.2	100.0
	Total	141	100.0	100.0	

Table 4g. Shot Gun

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Deployed but not used	1	.7	.7	.7
	Not Used	139	98.6	99.3	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Table 4h. Others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stop Stick	3	2.1	2.1	2.1
	No	135	95.7	96.4	98.6
	Spit Mask	2	1.4	1.4	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Alcohol/Drug Involvement

For the purpose of this report no distinction is made between alcohol and other drug use. Alcohol is a drug; thus, this variable could simply be referred to as drug involvement. For simple purposes of convention we will refer to this as alcohol use because in all but one case in which other drugs were involved the suspect had consumed either alcohol alone or alcohol and another drug. The one clear exception was an individual who had consumed mushrooms and did not appear to the ranger to have consumed alcohol. The combination of methamphetamine and alcohol appears to be somewhat common in non-DUI cases.

There was alcohol use by the suspect, reported in 96 (68.1%) of the cases reviewed. In 10 (7.1%) of the cases there was no mention made one way or another and in the remainder of the cases there was no apparent alcohol use. In 31 of the 96 cases the BAC was reported. The range was from .040 g% to .288 g %, with a mean of .152 g% (standard deviation of .067 g %). A BAC of .152 g% is very high.

In those incidents in which a test of BAC was conducted, females had a slightly higher level of alcohol in their blood as compared to males, although more of the suspects tested were males. The difference in BAC between males and females was not statistically significant.

Table 5. BAC by Gender

	Gender of Suspect	N	Mean	Std. Deviation	Std. Error Mean
BAC If Available	Male	19	.14137	.055502	.012733
	Female	10	.15760	.085620	.027075

More important than the gender difference in level of consumption is the relationship of alcohol consumption by the suspect to the increased likelihood of assault. Without going into great detail, most studies of either arrested or incarcerated offenders report a significant use of

alcohol or another drug just prior (within a time period prior to the arrest such that the effects of the alcohol or other drug are still present) to the commission of a crime.

The first analysis of the relationship of alcohol and the rate of assault uses the broader definition of assault which includes resisting, intimidation, flight and interference. As noted in Table 6, alcohol was involved in eighty-three (76.9%) of the cases in which there was an assault on a ranger. This is a statistically significant figure (chi-square = 24.812, df = 4, sig < .00).

Table 6. Comparison of Assaults (Broad Definition) in Which Suspect Appeared to be Impaired

		Alcohol Involved			Total	
		Yes	No	Don't Know		
assaultrecode	Assault (resisting, intimidation, flight, etc)	Count	83	19	6	108
		% within assaultrecode	76.9%	17.6%	5.6%	100.0%
		% within Alcohol Involved	86.5%	55.9%	60.0%	77.1%
		% of Total	59.3%	13.6%	4.3%	77.1%
	No elements of an assault	Count	8	15	4	27
		% within assaultrecode	29.6%	55.6%	14.8%	100.0%
		% within Alcohol Involved	8.3%	44.1%	40.0%	19.3%
		% of Total	5.7%	10.7%	2.9%	19.3%
	Assault occurred on another party	Count	5	0	0	5
		% within assaultrecode	100.0%	.0%	.0%	100.0%
		% within Alcohol Involved	5.2%	.0%	.0%	3.6%
		% of Total	3.6%	.0%	.0%	3.6%
Total	Count	96	34	10	140	
	% within assaultrecode	68.6%	24.3%	7.1%	100.0%	
	% within Alcohol Involved	100.0%	100.0%	100.0%	100.0%	
	% of Total	68.6%	24.3%	7.1%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.812(a)	4	.000
Likelihood Ratio	24.666	4	.000
Linear-by-Linear Association	5.351	1	.021
N of Valid Cases	140		

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is .36.

Using the more narrow definition of assault (see Table 7), the one in which intent or actual physical contact was apparent, the majority of the assaults still involved a suspect who appears to have been impaired (n= 62, percent = 78.8%). This difference is statistically significant (chi square = 38.75, df = 14, sig. < .000).

Table 7. Comparison of Assaults (Narrow Definition) in which Suspect Appears to be Impaired

			Alcohol Involved			Total
			Yes	No	Don't Know	
Was there an assault on a Ranger	Yes there was a physical assault	Count	63	11	6	80
		% within Was there an assault on a Ranger	78.8%	13.8%	7.5%	100.0%
		% within Alcohol Involved	65.6%	32.4%	60.0%	57.1%
		% of Total	45.0%	7.9%	4.3%	57.1%
	No, this was passive resistance without assault	Count	4	1	0	5
		% within Was there an assault on a Ranger	80.0%	20.0%	.0%	100.0%
		% within Alcohol Involved	4.2%	2.9%	.0%	3.6%
		% of Total	2.9%	.7%	.0%	3.6%
	No, this involved verbal abuse without assault	Count	7	0	0	7
		% within Was there an assault on a Ranger	100.0%	.0%	.0%	100.0%
		% within Alcohol Involved	7.3%	.0%	.0%	5.0%
		% of Total	5.0%	.0%	.0%	5.0%
	No, this involved flight without assault	Count	2	1	0	3
		% within Was there an assault on a Ranger	66.7%	33.3%	.0%	100.0%
		% within Alcohol Involved	2.1%	2.9%	.0%	2.1%
		% of Total	1.4%	.7%	.0%	2.1%
	No, involved combination of resistance, verbal and/or flight	Count	3	0	0	3
		% within Was there an assault on a Ranger	100.0%	.0%	.0%	100.0%
		% within Alcohol Involved	3.1%	.0%	.0%	2.1%
		% of Total	2.1%	.0%	.0%	2.1%
	No Assault	Count	8	15	4	27
% within Was there an assault on a Ranger		29.6%	55.6%	14.8%	100.0%	
% within Alcohol Involved		8.3%	44.1%	40.0%	19.3%	
% of Total		5.7%	10.7%	2.9%	19.3%	
No Assault, Failure to Comply or Uncooperative	Count	4	6	0	10	
	% within Was there an assault on a Ranger	40.0%	60.0%	.0%	100.0%	
	% within Alcohol Involved	4.2%	17.6%	.0%	7.1%	
	% of Total	2.9%	4.3%	.0%	7.1%	
No, Assault was on another party	Count	5	0	0	5	
	% within Was there an assault on a Ranger	100.0%	.0%	.0%	100.0%	
	% within Alcohol Involved	5.2%	.0%	.0%	3.6%	
	% of Total	3.6%	.0%	.0%	3.6%	
Total	Count	96	34	10	140	
	% within Was there an assault on a Ranger	68.6%	24.3%	7.1%	100.0%	
	% within Alcohol Involved	100.0%	100.0%	100.0%	100.0%	
	% of Total	68.6%	24.3%	7.1%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.785(a)	14	.000
Likelihood Ratio	41.971	14	.000
Linear-by-Linear Association	7.796	1	.005
N of Valid Cases	140		

a. 18 cells (75.0%) have expected count less than 5. The minimum expected count is .21.

Alcohol consumption clearly plays a role in the level of assaults on NPS Rangers. Also, NPS Rangers, in the course of their normal duties, are probably more likely to come into contact with individuals who have been drinking than would be the case with many of the other types of Federal law enforcement officers.

Reason for Suspect to be in Park

There are five cases for which no reason could be established for the suspect to be in the park. In reality these 5 situations involved incidents in which the park ranger assisted another agency outside of the park or the incident occurred outside of the park. The large percentage of suspects were park visitors (n = 101, percent = 71.6), followed by concession employees (n = 16, percent = 11.3) and finally, other park employees (n = 5, percent = 3.5). All of the incidents involving concession employees occurred in either Grand Canyon NP or Yellowstone NP. In the case of both parks problems with concession employees accounts for the largest share of incidents involving assaults on rangers. It is also noted that most concession employees who assault rangers (narrow or broad definition) have both prior arrest records outside of the park or prior confrontations or criminal activity within the park (more analysis later in this report).

Table 8. Reason for Suspect to be in Park

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Park Employee	5	3.5	3.5	3.5
	Concession Employee	16	11.3	11.3	14.9
	Park Visitor	101	71.6	71.6	86.5
	Unknown	14	9.9	9.9	96.5
	Not defined or outside of park	5	3.5	3.5	100.0
	Total	141	100.0	100.0	

Table 9 illustrates a comparison of the reason the suspect was in the park compared with their appearance of impairment. One hundred percent of the park employees (n = 5) and 87.5 percent (n = 14) of the concession employees compared with 67.3 percent (n = 68) of the visitors appear to be impaired by alcohol when they encountered a ranger.

Table 9. Reason to be in Park * Alcohol Involved

			Alcohol Involved			Total
			Yes	No	Don't Know	
reason	Park Employee	Count	5	0	0	5
		% within reason	100.0%	.0%	.0%	100.0%
		% within Alcohol Involved	5.2%	.0%	.0%	3.6%
		% of Total	3.6%	.0%	.0%	3.6%
	Concession Employee	Count	14	1	1	16
		% within reason	87.5%	6.3%	6.3%	100.0%
		% within Alcohol Involved	14.6%	2.9%	10.0%	11.4%
	Park Visitor	% of Total	10.0%	.7%	.7%	11.4%
		Count	68	32	1	101
		% within reason	67.3%	31.7%	1.0%	100.0%
	Unknown	% within Alcohol Involved	70.8%	94.1%	10.0%	72.1%
		% of Total	48.6%	22.9%	.7%	72.1%
		Count	5	0	8	13
	Not defined or outside of park	% within reason	38.5%	.0%	61.5%	100.0%
		% within Alcohol Involved	5.2%	.0%	80.0%	9.3%
		% of Total	3.6%	.0%	5.7%	9.3%
Total	Count	4	1	0	5	
	% within reason	80.0%	20.0%	.0%	100.0%	
	% within Alcohol Involved	4.2%	2.9%	.0%	3.6%	
Total	% of Total	2.9%	.7%	.0%	3.6%	
	Count	96	34	10	140	
	% within reason	68.6%	24.3%	7.1%	100.0%	
	% within Alcohol Involved	100.0%	100.0%	100.0%	100.0%	
		% of Total	68.6%	24.3%	7.1%	100.0%

Prior Arrest Record and/or Prior Contact with Park Law Enforcement

Criminological theory (Generality of Deviance, Social Control Theory, Social Learning Theory) is replete with research suggesting that prior deviant or criminal behavior is one of the best predictors of future deviant or criminal behavior. As depicted in Tables 10a and 10b the majority of the reports did not reflect whether there was a prior history of criminal behavior or prior encounter with NPS law enforcement. In some of the reports mention was made of a prior arrest or the criminal history record of the suspect was attached to the report. In either case the researchers recorded “yes” for prior arrest if such evidence was found in the report. Prior record

or contact with law enforcement was coded a little differently. For this variable we also included, in addition to arrests in the park, such things as warnings or contact that included counsel about inappropriate or dangerous behavior on the part of the suspect.

Table 10a. Record of Prior Arrests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	22.0	22.0	22.0
	No	19	13.5	13.5	35.5
	Don't Know	91	64.5	64.5	100.0
	Total	141	100.0	100.0	

Table 10b. Prior Record of Contact with Law Enforcement in Park

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	13	9.2	9.2	9.2
	No	32	22.7	22.7	31.9
	Don't Know	96	68.1	68.1	100.0
	Total	141	100.0	100.0	

Use of Weapons by Suspect and Nature of Assault

A weapon was reported present or was used in 22 (15.8 %) of the incidents. In ten of the incidents the weapon was a vehicle, in seven a knife was present and in two cases a firearm was present. In the remaining cases the weapons were such things as rocks, cooking utensils, tent stakes and/or chairs.

The suspect may have used more than one means of physically assaulting a ranger, such as hitting the ranger with a hand and also kicking the ranger. If this was the case both forms of assault were recorded but in separate variables. The first variable (Table 11a) described lists the primary or predominant nature of the assault, while the second variable (Table 11b) lists a second form of assault if more than one type was used.

Table 11a. Primary Nature of Assault

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	knife	7	5.0	5.0	5.0
	Grabbed or Pushed Officer	15	10.6	10.6	15.6
	Struck Officer with Hand or Foot	33	23.4	23.4	39.0
	Bit	5	3.5	3.5	42.6
	Spit	5	3.5	3.5	46.1
	Rock	1	.7	.7	46.8
	None	61	43.3	43.3	90.1
	Other	2	1.4	1.4	91.5
	Firearm	2	1.4	1.4	92.9
	Vehicle	10	7.1	7.1	100.0
	Total	141	100.0	100.0	

Table 11b. Secondary Assault

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Grabbed or Pushed Officer	3	2.1	2.1	2.1
	Struck Officer with Hand or Foot	7	5.0	5.0	7.1
	Bit	3	2.1	2.1	9.3
	Spit	2	1.4	1.4	10.7
	None	124	87.9	88.6	99.3
	Other	1	.7	.7	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Nature of Injury

Not all reports made mention of an injury to a ranger. In those reports that did mention injury there may have been more than one type of injury to an individual ranger or more than one ranger may have been injured. This type of coding method accounts for the number of total injuries being greater than the number of assaults or reports of assaults.

Table 12. Injury to Rangers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, Cut	9	5.42	5.45	5.45
	Yes, Contusion	8	4.83	4.85	10.3
	Yes, Scratched or Bitten	12	7.23	7.27	17.58
	Yes, Bruised	25	15.06	15.15	32.73
	Yes, Exposed to Body Fluids	12	.723	.727	40.0
	No Injury or Injury not mentioned in report	99	59.64	60.0	100.0
	Total	165	99.4	100.0	
Missing	System	1	.6		
Total		166	100.0		

Several reports also included photographs of the injury or injuries and/or mentioned medical treatment or time off for the injury to heal. While this information is certainly not complete it does illustrate some of the cost to the NPS of injuries resulting from assaults. The best estimate is that about 23 work days were lost to assault related injury. It is very difficult to determine the actual medical cost for AZT or hepatitis C treatment, or for splints, shots, bandages or doctors visits; however, the best estimate that can be made given the limited information available is about \$45,000 per year. Given the limited information available the number of days of lost work and the cost of medical treatment is probably grossly underestimated here. This type of information should be made available for the next phase of this study.

Traffic Related and Domestic Violence Incidents

Traffic stops and domestic violence incidents are both dangerous situations in which an assault on a law enforcement officer is not uncommon. Table 13 depicts the number of reports which indicated that the incident was primarily related to a traffic related issue, while table number 14 depicts the number of reports related primarily to domestic violence issues.

Table 13. Traffic Related

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	12.1	12.1	12.1
	No	122	86.5	86.5	98.6
	Don't Know	2	1.4	1.4	100.0
	Total	141	100.0	100.0	

Table 14. Domestic Violence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	3.5	3.5	3.5
	No	134	95.0	95.0	98.6
	Don't Know	2	1.4	1.4	100.0
	Total	141	100.0	100.0	

Using the more restrictive definition of assault, of the 17 recorded traffic related incidents, 13 (76.5%) resulted in an assault on an NPS Ranger, 1 (5.9%) resulted in verbal abuse, 2 (11.8%) resulted in a combination of verbal, passive resistance and/or flight and 1 (5.9%) resulted in failure to comply or uncooperative behavior. When the less restrictive definition of assault relative to traffic stops was analyzed, all 17 of the incident involved assaultive behavior.

Three (60%) of the 5 incidents of domestic violence investigated by NPS Rangers resulted in clear cases of physical assaults (using the more restrictive definition of assault) on the officers, while 1 incident resulted in verbal abuse and 1 incident involved no identifiable elements of assault. Using the less restrictive measure of assault 4 of the 5 cases would be classified as an assault on an NPS Ranger while one report contained no identifiable elements of assault, but was coded as an assault.

Demographics of Suspect

Age

The average age of suspects for which an age was available was 33.29 years (standard deviation = 12.15). Male suspects ($x = 34$, $std = 12.35$) were older than female suspects ($x = 29.33$, $std = 10.48$). This difference was statistically significant ($f = 2.809$, $sig. = .097$). It is noted that the average age of the suspects encountered by the NPS appears to be older than the average age for the general population of offenders.

Gender

One hundred-seven of the suspects were reported to be males and 22 were reported to be females. Gender could not be determined in 12 cases, usually this was the result of the suspects fleeing the scene before their gender could be determined. Most of the cases in which the gender could not be determined involved incidents in which none of the elements of assault were present under either definition of assault used in this report.

Race/Ethnicity

Ethnicity was not reported in 28 (19.9%) of the incidents. In those incidents in which ethnicity was reported African Americans accounted for 7 (5%) of the cases, while Asian/Pacific Islanders account for 2 (1.4%), Hispanics for 1 (.7%), Native Americans for 9 (6.4%) and Whites for 94 (66.7%) of the cases. Native American representation as suspects is clearly out of proportion to their representation in the overall population. All of the Native Americans were concession employees, generally housed in the parks.

Time of Day of Incident

The greatest number of incidents occurred between 18:00 and 24:00 hours, with the second largest number of incidents occurring between 12:01 and 17:59 hours. This pattern is comparable to that found in most law enforcement agencies.

Table 15. Time of Day Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Evening 18:00 to 24:00	58	41.1	41.1	41.1
	Early Morning 00:01 to 06.00	29	20.6	20.6	61.7
	Late Morning 06.01 to 12:00	19	13.5	13.5	75.2
	Afternoon 12:01 to 17:59	35	24.8	24.8	100.0
	Total	141	100.0	100.0	

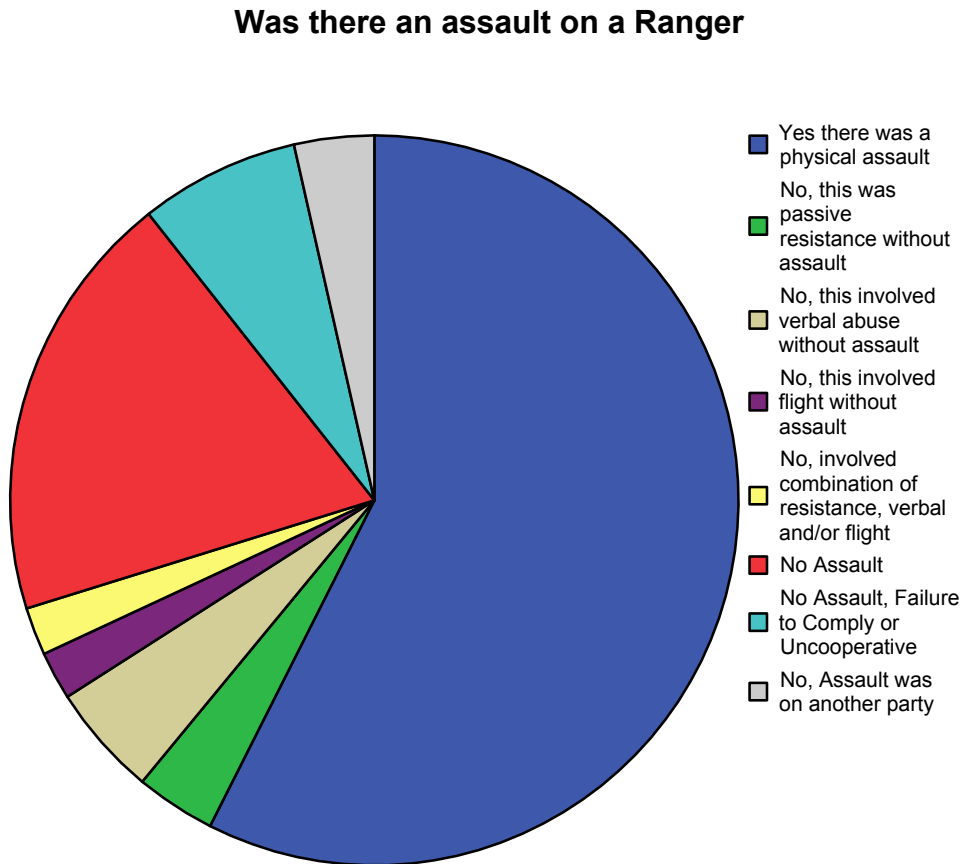
Assaults

The final category of quantitative analysis and the primary focus of this report is that of assaults on NPS Rangers. As a reminder the placement of an incident in the category of assault or in another category was done only after all three of the raters agreed upon the placement of the incident, and two classifications of assault were conducted. The first is the more restrictive classification in which only a physical assault was coded as an assault. The second was a classification in which behavior defined in Federal Criminal Code and Rules 18§111, as assault which includes forcible assault, resisting, opposing, impeding, intimidation or interfering, is included under assault.

Review of the category of physical assault versus other forms of behavior

This part of the analysis involves the typology of assaults in which only physical assaults were included as an assault on an NPS Ranger. The definitions of each of the categories used in this part of the analysis are included with the analysis of each category.

Figure 1. Categories Where Only a Physical Assault Was Coded As An Assault, Depicted by Percentages.



Using the more restrictive coding scheme it was determined that 81 (57.4%) of the incidents involved a physical assault on an NPS Ranger. In these incidents there was a clearly demonstrated assault on an NPS Ranger. In this category assault included use of a weapon to intimidate (knife, vehicle, chair, cooking implements), an actual attack with a weapon, physical contact without a weapon with intent to harm (biting, hitting, kicking, elbowing), spitting fluid such as saliva or blood, and an attack without a weapon in which a blow was intended but did not connect. The behaviors noted above were often accompanied by the use of profane language, verbal intimidation, struggling, flight and resistance. It is also the case that some of the behaviors occurred together, such as splitting and striking the NPS Ranger or flight followed by an assault.

Five (3.5%) of the cases were eliminated as assaults on NPS Rangers because they involved assaults on a third party (usually another law enforcement officer or security guard) but were erroneously reported on LEOKA (Law Enforcement Officers Killed or Assaulted) as an assault on NPS personnel. This appears to be an inadvertent coding error on the part of the individuals sending the LEOKA report forward to a central collection point. If there was an assault on an officer from another agency it would be the duty of that agency to send forward the report of the incident. Security guards (concession security) are not classified as law enforcement officers; thus, should not be included in LEOKE reports from the NPS.

Ten of the incidents (7.1%) involved an immediate failure to comply or cooperate by the suspect (non-compliance was very short) with no physical assault on the NPS Ranger. This type of incident often involved a suspect questioning the authority of the NPS Ranger to do such things as check a fishing license or inspect a boat or failure to follow the request of the Ranger to produce identification or to come forward, and/or general obstinacy on the part of the suspect. There was, however, no physical assault and in each case the suspect eventually complied. These reports were sent forward to LEOKE as assaults on NPS Rangers.

Three (2.1%) of the incidents involved some combination of passive resistance, verbal abuse and/or flight, but not a physical assault. The most common behavior was running from the NPS Ranger, while using profane language.

Five (3.5 %) of the incidents involved passive resistance on the part of the suspect. The resistance was short lived and either the suspect complied or the nature of the resistance was so slight that it was easily overcome by the Ranger. This type of behavior included such things as a suspect having his hands beneath him while the Ranger tried to cuff him or individuals pulling away from a Ranger while being cuffed, but immediately complying when

ordered to stop. This category also includes incidents in which the suspect struggled slightly, but stopped struggling when ordered to do so by the NPS Ranger and there was no physical assault.

Three (2.1%) more of the cases involved flight without a physical assault on the NPS Ranger. These incidents involved suspects with whom the ranger had little or no contact. The suspect simply ran away. In one case the suspect returned and was arrested without incident and in the other two the suspects were never caught or identified.

In seven (5.0%) of the incidents there was evidence of verbal abuse by the suspect and this was reported to LEOKA as an assault on an NPS Ranger. These incidents generally involved the use of profane language and suggestions by the suspect that the NPS Ranger perform an anatomically impossible sexual act. Some intimidation was usually present in the language used by the suspect; however, there was no physical assault.

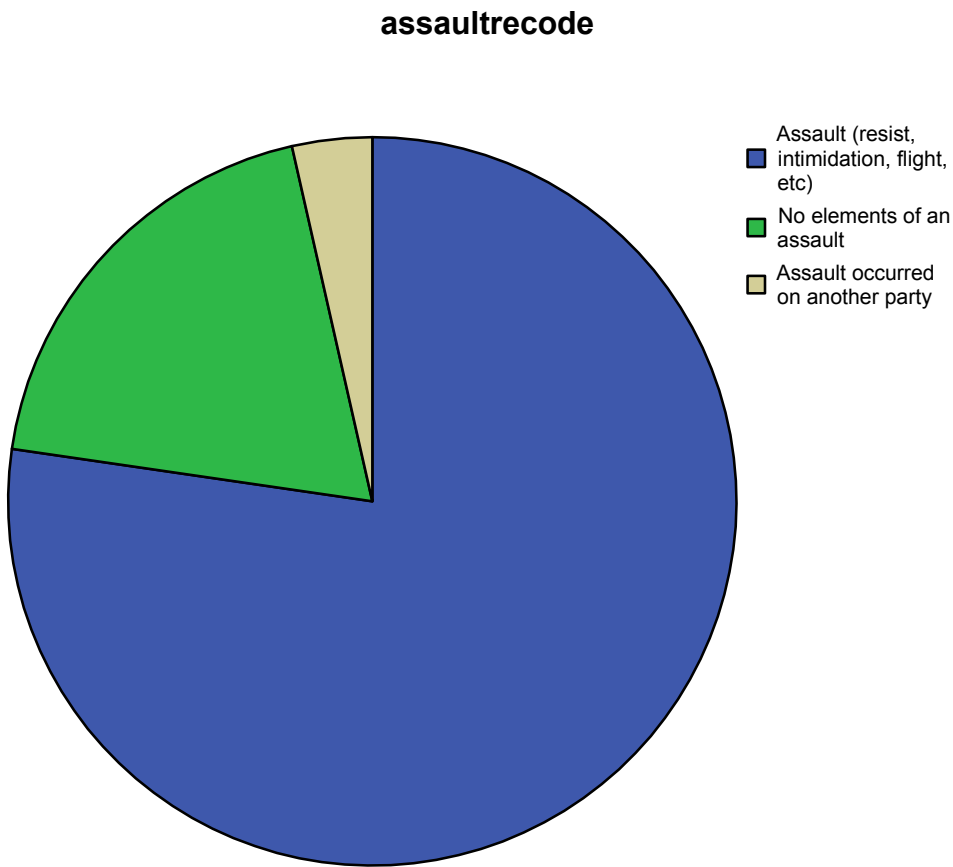
In twenty-seven (19.1%) of the cases no element of the crime of assault could be found by the raters. This finding will be discussed in the next section.

Review of the category of physical assault which includes resisting, opposing, impeding, intimidation, and/or interfering

This is a more inclusive category of assault in which CFR 36 § 2.32, Interfering with Agency Functions, comes under the category of assault. In addition to behaviors such as resisting, opposing, impeding, intimidation and/or interfering, it appears from the reports reviewed that an incident could be reported in LEOKA as an assault if the incident involved the failure to follow a lawful order, providing false information or making a false report to an NPS Ranger.

As noted in Figure 2, when all of the behaviors described, in addition to a physical assault, in CFR 36 § 2.32 and FCCR 18 § 111 are included under the heading of assault the number of incidents of assault increase to 109 (77.3 %) of the incidents reported.

Figure 2. Assaults Recorded



Remembering that 5 (3.5%) of the assaults reported were on individuals other than NPS Rangers, this leaves 27 (19.1%) of the incidents in which none of the elements of an assault using either coding scheme described above could be found. There is no one clear category into which a large number of these incidents could be placed. It is not the intent of

the researchers to cause any individual with the NPS any embarrassment; however, a few examples of the types of incidents that fell into this category might be helpful. There were two incidents in which an NPS Ranger came into contact with individuals carrying a weapon (one with a rifle, one with a knife). In both cases there was no indication in the report that there was any appearance of any intent to use the weapons and the suspects disarmed themselves immediately upon command from the Ranger, yet these incidents reported in LEOKA as assaults. In another case a fee taker at a park entrance called for assistance from an NPS Ranger concerning an individual who was crossing the park. The individual was courteous and followed all of the instructions of the NPS Ranger. This appears to have been classified as an assault in the LEOKA report because the fee taker expressed some unstated fear of the individual even though he exhibited none of the behaviors associated with assault and/or intimidation. In another incident two park employees (one an NPS Ranger) were off duty at a social function in the park. Words were exchanged between the two individuals. An on duty NPS Ranger was called to the scene. This was classified in LEOKA as an assault on an NPS Ranger. In yet another incident an off-duty, out of uniform ranger was involved in an incident in which some beer cans were thrown at him. This is certainly an assault, but all three reviewers agreed that it should not have been classified as an assault on an NPS Ranger. In yet other incidents, in which subjects who were highly intoxicated were asked to provide identification or proof ownership of a vehicle, the incidents were coded as assaults on an NPS Ranger. It appears that the incidents were coded as assaults because the highly intoxicated subjects gave a wrong date of birth, gave the Ranger a credit card instead of a driver's license or provided the wrong registration papers to the Ranger, thereby providing false information. In other cases that appear to have been reported in LEOKA as an assault, the subject simply asked the Ranger if he/she had the authority to request inspection of a fishing license or to

inspect a boat. When told that the Ranger did have such authority the subject complied, yet these incidents were reported as non-compliance and were reported in LEOKA as assaults.

COMPARISON OF ASSAULT RATES FOR FEDERAL LAW ENFORCEMENT

The raw data has suggested that NPS Rangers are among the most likely of all Federal law enforcement officers to be the victims of assault. Assault rates are generally standardized for comparison. In this case we used the number of assaults per one thousand law enforcement employees (FTE). The number of assaults is divided by the number of employees. To standardize the figure for comparison we then multiply this figure by 1,000.

For comparison purposes we chose agencies for which both employment figures and the number of assaults were available. This data was available for the years 1997 through 2002. The NPS data included information for both the U.S. Park Police and NPS Rangers. For the purposes of analysis we were able to separate the employment and assault data for these two groups. The NPS data was compared to information from: Immigration and Naturalization Service; U.S. Customs; U.S. Secret Service; Bureau of Alcohol, Tobacco, Firearms and Explosives; Drug Enforcement Agency; Federal Bureau of Investigation; U.S. Marshals Service; U.S. Capital Police; U.S. Postal Inspection Service; and Internal Revenue Service, Division of Law Enforcement.

The analysis for the NPS was done in three major parts:

- 1) The number of assaults reported via the LEOKA reporting system to the FBI (UCR) was used in the first comparison. This included assaults on both NPS Rangers and U.S. Park Police.
- 2) The number of assaults was evaluated based on the two typologies of assault developed by the researchers. This included assaults on both NPS Rangers and U.S. Park Police.
- 3) The number of assaults was evaluated based on the two typologies of assault developed by the researchers. This analysis was for NPS Rangers only.

Regardless of the definition of assault used or whether the U.S. Park Police were included in the analysis, NPS law enforcement officers have the highest rate of assault per 1,000 officers in Federal service. The average assault rate for the other Federal services (combined) ranges from a low of 3.35 to a high of 9.4 during the study period. During the same period for all NPS law enforcement personnel, using data reported through LEOKE, the rate was as low as 34.4 and as high as 45.8 per 1,000. The same analysis using NPS Ranger data only suggests a low of about 36 and a high of 48.8 using the data provide through LEOKE.

Table 16. Comparison of Assault Rates

	Lowest Annual Rate+	Highest Annual Rate	Average Annual Rate
Raw LEOKA rate* for comparison Federal Agencies	3.35 in 2002	9.42 in 1998	7.82
Raw LEOKA rate for all NPS (both Rangers and Police)	34.4 in 1997	45.82 in 2002	42
Raw LEOKA rate for NPS Rangers only	36.09 in 1997	48.83 in 1998	44.20
NPS Ranger LEOKA rate using more inclusive definition of assault	27.90 in 1997	37.75 in 2001	25.42
NPS Ranger LEOKA rate using more restrictive definition of assault	20.75 in 1997	28.08 in 1998	24.65

* per 1000 employees

+ 1997- 2002

Table 17 (found in Appendix C) illustrates the full results for this analysis. It should be noted that some of the data sources used for this analysis contained conflicting information. When conflicting information was found we used the information provided by the agency providing that information as opposed to using information provided by another party, most commonly the Sourcebook of Criminal Justice Statistics.

QUALITATIVE ANALYSIS RELATED TO POTENTIAL TRAINING ISSUES

This section is much more qualitative than is the analysis in the previous section. Here we rely less on the specifics of codes, laws and regulations and more on the Principle Investigator's 33 years of experience in law enforcement (15 as a practicing law enforcement officer, 18 as a trainer and educator) and 25 years as a nationally recognized expert in the area of law enforcement policies and practices.

With the information gathered during this initial phase of this study it is not possible to definitively link the assaults documented here to inappropriate control actions or non-action by the representative sample of NPS Rangers, nor is it yet possible to narrowly identify specific types of training, supervisory or performance issues. Performing law enforcement in the United States carries with it the risk of assault even when training, equipment and performance are maximized.

Further, it should be remembered that none of the researchers were present during any of these incidents and we are relying on comments by the Rangers to assess their behavior. It should also be remembered that it is very easy to sit in judgment of others while sitting in the confines of one's own office and reading reports. It is also quite clear that the vast majority of arrests and other encounters between NPS Rangers and the public occur without incident or assault and that in most cases NPS Rangers accord themselves with the highest of professional standards.

However, general comments may prove to be useful in the training and the sustained retraining of Rangers, their supervisors and managers while the evaluation of causative factors and solutions continues. No pattern of inappropriate action can be assigned to any single ranger, supervisor or manager (nor would it be); however, there does appear to be an overall pattern of behavior that was found in a several of the incidents on the part of the both the NPS

Rangers and the suspects that could contribute to the high rate of assault. This includes tentative behavior control behaviors and difficulty in transitioning from non-law enforcement related to enforcement related roles. The lack of personnel at critical times left some NPS Rangers in situations in which they should not have acted alone but little choice to do otherwise. Additionally, the high number of intoxicated suspects, along with the high level of alcohol consumption per suspect, is a likely contributor to the high number of assaults. Finally, the inability on the part of some suspects to either identify NPS Rangers for other NPS personnel seems in some cases to add to the problem.

It is important to note that regardless of the command control exerted by a law enforcement officer, in some situations the suspects are going to be uncooperative and combative no matter what action is taken. There were, however, two main threads that ran through many of the incidents. The first involved a failure, in some incidents, of the NPS Ranger to take immediate command control of the scene or the incident when such action was warranted. This was illustrated by situations in which the NPS Ranger never appeared to take charge and was operating from a defensive position from the start of the incident. While failing to do so may not, in some cases, have increased the likelihood of assault, it does appear that some of the suspects tended to become more uncooperative as the tentative nature of the Ranger became more apparent.

While evidence is slim, based on the reports, it appears that many of the NPS Rangers carry a multitude of responsibilities, many similar to those of other full-service police departments and others, of a non-law enforcement type, specific to service in the National Park system. Transitioning from one law enforcement role to another has been proven to be difficult. Transitioning from non-law enforcement roles to law enforcement roles can be even more difficult. The second problem was the apparent inability of some NPS Rangers to

transition from an educational/informational role to an enforcement role. It appears from the reports that in some cases the uncooperativeness or combativeness of the suspect increased as the failure of the NPS Ranger to change roles became more apparent. Transitioning from one role to another can be difficult particularly where one role is more ingrained or internalized as compared to the other role or roles, but training can help officers to accomplish this type of change.

One example of this is a case in which the Ranger sought permission (on a radio) of a superior to handcuff a suspect who was clearly under arrest. The suspect became combative after the request was made. In two incidents of a more serious nature (both very similar in nature) a ranger walked into a campsite. The purpose of the visit to the campsite was to conduct a felony investigation of the subjects in the campsite. In both incidents the Rangers noted in the report the presence of a large knife lying in plain view and within reasonable but not immediate grasp of the suspect. In neither case did the ranger attempt to secure the knife as he is entitled to do for the sake of officer protection. In both cases the suspects were evasive and uncooperative during the investigation and in both cases the suspects eventually grabbed the knife threatening the rangers and others with it. Plainly, law enforcement officers have the authority and duty to remove dangerous weapons from the reach of a suspect immediately upon noticing the presence of such a weapon. For whatever reason these two rangers did not act upon or demonstrate a belief that they had such authority.

Another problem concerns the large number of impaired suspects involved in assaults on NPS Rangers. Dealing with intoxicated or impaired suspects is not pleasant and they can be notoriously unpredictable. While most are cooperative, if a little scattered at times, their behaviors can rapidly become obstinate, resistant, uncooperative and sometimes combative. In several of the incidents it appears that the Ranger did not take affirmative action to control

the intoxicated person. It appears that in these cases the Ranger spent far too much time lecturing or trying to educate the individual as opposed to simply arresting them. While it is not possible to get into the minds of these suspects, various of the reports create an appearance that the lack of affirmative control by the Ranger may have been perceived by the suspect as a sign of weakness, one that the suspects sought to exploit.

Another type of issue appears to involve the lack of personnel at critical times, such as at the beginning of quiet hours in campsites at night. All of these incidents involved alcohol and they involved three or more suspects. In four of the five incidents that occurred relative to enforcement of quiet hours, the Rangers were alone (other Rangers were later called as backup) when they first approached the people in the campsite in question. Parks may benefit from a re-examination of staffing patterns relative to risk.

In all four of the above cases the Ranger appeared to take an educational approach in dealing with the suspects. When it was apparent that the educational approach would not work, the Ranger in each case continued to try to reason with the suspects. When this tactic eventually failed the Ranger again in each case pronounced one or more of the suspects under arrest. The arrestees in each case resisted, fled, were non-compliant and/or assaulted the Ranger; only then did the Ranger call for backup. We recognize that Rangers probably successfully handle many such incidents with no problem at all. The issue, from a training/retraining point of view is whether the Ranger should withdraw until sufficient forces arrive to establish an atmosphere and reality of firm control before making the arrest.

Similarly, park managers may wish to implement and publicize a more aggressive stance towards intoxicated behaviors which appear to threaten the safety of their employees and, no doubt, the quality of a park experience for visitors.

The final observation, not one that can readily be handled by individual officers, is the apparent lack of respect displayed by some suspects for NPS Rangers. In several of the reports information was provided that suggests that many suspects could not identify the NPS Ranger as being a law enforcement officers, different from fee takers, maintenance or interpretive personnel. One might think that wearing of a utility belt with a gun, handcuffs, OC and other equipment might be a sign that the NPS Rangers was a law enforcement officer, intoxicated people or people whose focus is on other things have been known to miss these signs.

Lastly, 'training' in this context should be broadly construed as the formal and informal processes of basic training and continuing education and the organizational, supervisory, managerial, peer and personal experiences that influence the decisions of individual officers over time. A careful examination of all of these inputs is usually required to effectively identify solutions to complex safety problems such as reflected in this study.

DISCUSSION, SUMMARY AND RECOMMENDATIONS

Accuracy and Reliability

One of the major objectives of this study was to verify (for accuracy and reliability) and quantify the previous findings that NPS law enforcement employees are the most likely of Federal law enforcement employees to be assaulted. The short and accurate answer is that NPS Rangers are the most likely of Federal Law Enforcement employees to be assaulted. This, however, does not mean that there are no problems with the reporting of assaults.

Based on the review of available reports described in this paper the following appears to be true:

1. There appears to be some inconsistency between parks as to whether an incident is eventually reported in the UCR as an assault.
2. The NPS, in general, appears to use a definition of assault that is broader than that used by other agencies.
3. There is significant evidence to support the proposition that the NPS reports incidents that do not meet the definition of assault as set forward in the methods section of the UCR.
4. The elements necessary to prove or describe an assault, regardless of the definition used, are missing in many of the available reports.

Each of these issues (described above) can have an impact on both the accuracy and reliability of the data used to assess the number of assaults. For example, if each park uses different criteria for determining whether to forward an incident through LEOKA, the statistics would be neither reliable nor accurate. If the NPS uses a definition of assault that is at variance with that generally used by other agencies, the accuracy of the statistics might be in question. If the elements needed to prove that an assault occurred are absent in the report this might lead to an undercounting of assaults. Finally, if the individuals given the responsibility of forwarding information in LEOKA do not have similar training and a similar understanding of what is to be reported as an assault on an officer, the reliability of the information suffers. In sum, the recommendation would be to have one definition that is agreed upon throughout the park system and to train the appropriate individuals to that one standard.

Comparison of Results to Other Agencies

The second deliverable was to compare the verified NPS statistics to those of other federal land management agencies, and to a representative sample of other Federal law enforcement agencies. The comparison does not change the original hypothesis which was: The NPS has the

highest rate of assault on its law enforcement personnel of all Federal Agencies. This statement holds true regardless of the definition of assault used. The larger question is “why.” The duties of the NPS Rangers appear to more closely approximate the duties of state, county and municipal law enforcement officers as compared to the duties of many of the other Federal agencies. The similarity of duties would place NPS Rangers in similar types of situations that more closely approximates a full-service police department⁹ as opposed to the investigative types of duties performed by other Federal agencies. Street type policing tends to place the officer in the type of situation in which an assault is more likely to occur. In this sense, NPS Rangers operate in conditions that resemble state, county and local law enforcement. In particular, the large number of intoxicated/impaired suspects increases the likelihood of assaults. This is a finding that is similar to the experience of state, county and municipal law enforcement.

It is a bit difficult to determine the assault rate across all local, state and county full-service police departments, because employment figures and assault figures have different reporting rates. However, it appears that the assault rates for NPS Rangers and the assault rates for officers in other full-service police departments are more closely aligned than is the comparison of NPS to other Federal agencies. The assault rates for state, county and local law enforcement appear to range from a low of 42.3 assaults per 1,000 officers, to a high of about 61.2 assaults per 1,000 officers during this study period.

Descriptors Related to Assaults

The third deliverable was a statistical and narrative abstract of the NPS assaults listing such relevant criteria such as time of day, day of week, type of call resulting in the assault, the number of officers present, types of weapons used by all parties, and a narrative summary of the

⁹ In this case a full-service police department would be defined as one that included at a minimum the following duties: traffic law enforcement, investigation of crimes including all of those in the criminal code for which the officers having responsibility for enforcement and other law enforcement related duties such as management of disturbances, public assists and general investigations.

events. Based on the review of reports provided by the NPS for this study it appears, with the exception of the average age and the ethnic make-up of the offenders, that there is a remarkable similarity between the findings in this study relative to such things as the time of day of the offense, the ratio of male to female offenders, types of weapons used, the percent leading to injuries, the behavior of the suspects, and the number of officers present as compared to other full-service police departments. For example, about 29.3 percent of the NPS Rangers reported an injury relative to an assault. This is comparable to the percent of injuries reported by full-service police departments which has averaged about 31 percent for the last twenty years. Another example of comparability concerns the type of call or assignment. Full-service police departments report that about 31.7 percent of the calls in which an officer was injured were related to disturbances of one type or another. For the NPS 29.3 percent of the calls in which an assault on an officer occurs are related to a disturbance. A comparison of the time of day of the incidents between the NPS and other full-service police departments suggests almost no difference. Incidents of assault are more likely to occur in the late evening and early morning hours.

As noted above, the two exceptions to the comparability of the NPS to other full-service police departments involve the ethnic makeup of the suspect population and the average age of the suspect. In the case of the ethnic makeup of the suspect much of the difference is driven by the high number of Native Americans employed as concession or park employees in Grand Canyon National Park. The ability to travel to and stay in a park is driven in part by the interest in going to the park and the ability to fund such travel. It should then be expected that the population of people in the parks, without other family members present, would be older than the normal population; thus, the population of potential offenders should be older.

Lastly, the authors are aware that NPS Rangers, unlike most full service police agencies, are also tasked to perform other high risk work such as structural and wild land fire fighting, emergency medical and rescue work, These multi-tasking risk factors should be evaluated in further analysis of the assault rate causes and solutions. The cumulative rate of injury to this work force from all causes may also be worthy of further examination.

Finally, the image that an NPS Ranger has of him/herself is vitally important. If the image is not focused primarily on their role as a law enforcement officer, then the ability to act in that role is diminished or hampered. The next phase of this study should examine the images held by the rangers, supervisors and managers of what a NPS Ranger is and should be.

Phase II of Analysis of Assaults on National Park Service Rangers

- Principal Investigator:** Dr. Larry Gould, Associate Dean, College of Social & Behavioral Sciences, Department of Criminal Justice, NAU
- Co-Principal Investigators:** Dr. Marianne Nielsen, Associate Professor of Criminal Justice, Northern Arizona University
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- Research Assistant:** To be named
- Cooperators:** NPS Staff: Federal Law Enforcement Training Center
Richard Powell, NPS Safety and Occupational Health Manager

DEVELOPMENT OF PLAN FOR FURTHER INVESTIGATION

Introduction:

That National Park Service (NPS) Law Enforcement personnel have the highest rate of victimization for assault of all Federal Law Enforcement Agents was verified in Phase I of this study. This finding was first suggested by the International Association of Chiefs of Police (IACP), in the study, *Policing the National Parks: 21st Century Requirements*, and by the information collected in the Law Enforcement Officers Killed and Assault (LEOKA) summary of data.

What remains to be determined is why NPS Rangers suffer such a high rate of assault. The findings in Phase I of this study only hint at some of the causes for the high rate of assault, the primary focus of that part of the study being to verify and quantify the previous IACP findings.

The purpose of Phase II is to gather additional information through the use of surveys and face-to-face interviews to determine the underlying causes of the high rate of assault. In other words, to collect information not available through a review of the arrest and incident reports which was the process used in Phase I.

Objectives:

1. The overall goal of the second phase of the study is to implement the investigative plan described in the Phase I Objectives, which is to determine causation and recommendations for resolution of the assault problem. This plan uses such techniques as:
 - i. Interviewing involved rangers to determine their mental and physical preparedness, and actual versus perceived operating conditions.
 - ii. Seeking relevant differences between NPS training, preparedness, operating environments, program supervision or other conditions and those of other agencies. These differences may account for the higher NPS assault rate.
 - iii. Surveying a representative portion of NPS enforcement rangers and /or supervisors, and managers as necessary to determine the distribution of the causative conditions.
 - iv. Continue to collect assault-related reports.
2. Determine and document the underlying causes of the high rates of assaults.
3. Continue verification and quantification of the IACP's findings and the findings in Phase I to include such information as:
 - i. annual costs of compensation for injuries to the ranger work force,
 - ii. cost of time lost from work
 - iii. cost of medical treatment
 - iv. comparison of assault rate and working conditions to similar work forces (such as U.S Forest Service law enforcement, state game wardens and/or full-service police departments).
4. Recommend specific training, policy or procedural changes for resolution of the assault problems.
5. Prepare a written report to the NPS which documents the underlying causes of the high rate of assaults.

Statement of Work:

The purpose of this agreement is to continue to foster a cooperative working relationship between the faculty and staff at Northern Arizona University (College of Social and Behavior Sciences) and NPS staff to conduct a quantitative and qualitative study to determine the underlying causes of the high rate of assault on NPS Rangers.

In sum, the proposal involves a two step process that has proven to be highly effective in other law enforcement related settings. Step one is the collection of information from NPS Rangers, supervisors and managers (detailed later in this proposal) using a survey method. Step two involves intensive interviews with a select group of respondents at various locations in the National Park System. An important aspect of step two involves travel to various parks to assess the working environment and culture of each park.

The findings from Phase I, as well as the findings in the IACP report support the need for a more intensive study of the assaults in NPS Rangers. This problem does not appear to be related to a short term spike in assaultive activity or to a recent change in the risk environment. Therefore, until proven otherwise, it appears likely that some workplace condition(s) of long standing are causative. This class of workplace condition is typically engrained in agency and employee expectations and requires careful examination to isolate.

The distributive manner by which the NPS manages its law enforcement function offers difficulties in and opportunities for productive study. The great variety of conditions makes generalization difficult. However, the same variety may make it possible to isolate local conditions which worsen or mitigate the assault risks, and therefore illuminate opportunities for resolution.

Upon completion of the first phase of this study, several potential risk factors were discussed. These included:

- The potential uniqueness of the ranger role in providing full service uniformed policing (in contrast to post crime investigative work more typical of the federal environment.)
- The apparently high rate of intoxicated persons involved in assaults.
- An apparent recurring slowness of rangers to evolve from an educational role to assertive control behaviors.
- The potential for role confusion on the part of the ranger or violator.

- Potential equipment issues, specifically the ready availability of appropriate prisoner transport.

These observations were offered to fulfill the contract requirements and to assist the NPS in rapid identification of potential risk factors. However valid, they were based upon anecdotal observations made during examination of the assault reports. To fully and impartially understand the issues, and to increase the likelihood that the list of causative factors is complete the use of a scientific method approach to the inquiry is required.

The collection of information on the similarities and difference in working conditions from one park to another is of vital importance as noted above. Careful examination may illuminate differences in actual employee conditions such as availability of on-duty supervisory support, communications support, environment, supervisory and managerial feedback, frequency of law enforcement experiences, role diversity, task saturation or role confusion and other issues which are relevant to the assault rate.

- Overall the collection of information concerning law enforcement relative to:
 - Management styles
 - Perception of the primary function of NPS Rangers
 - Priorities in making changes in park law enforcement to reduce assaults
 - Perceived outcome and expectations relative to:
 - Visitor safety
 - NPS Ranger Safety
 - Safety of other park employees
 - The overall park experience
- Collect both self-reported and other information concerning:
 - Time lost from work due to injury from assaults
 - Nature and impact of the injury (mental and physical impact)
 - Cost of medical treatment
 - Type of medical treatment
- Demographics of the Rangers who have been assaulted
 - Age
 - Gender
 - Number of years in service
 - Training
 - How the person entered the park service
 - Primary duties
 - How the Ranger entered the park service

- Demographics of Supervisors
 - Age
 - Gender
 - Number of years in service
 - Training
 - How the person entered the park service
 - Primary duties
 - How the supervisor entered the park service

- Demographics of Park Managers
 - Age
 - Gender
 - Number of years in service
 - Training
 - How the person entered the park service
 - Primary duties
 - How the park manager entered park service

- Questions concerning Primary and Secondary Duties
 - Self reflective views concerning Primary and Secondary Duties
 - Review of job description relative to job duties

- Questions concerning assaults
 - Review of criteria concerning assaults
 - Self reported definition of assault
 - Self reports concerning assaults within the last 5 years
 - Self reported definition of assault
 - Self reports concerning assaults within the last five years
 - Self identification of local and service wide actions required to resolve the assault problems.

- Questions concerning work conditions
 - Equipment Availability of on-duty supervision
 - Shifts per day and rangers per shift and geographic distribution
 - Personal and park case load
 - Availability and use of communications support
 - Perceptions of law enforcement program support
 - Availability and use of backup
 - Primary issues involved in dealing with park visitors, other park employees and concession employees.

- Questions concerning the meaning of being an NPS Ranger (this is very open ended and is aimed at collecting information about self-image)

Methodology

As mentioned above, the collection of data would be done in two stages. The first stage involves the collection of information using a survey instrument that would be mailed to all NPS Rangers, supervisors and park managers. The purpose of the survey is to gather park system-wide information. The surveys would be tailored for each group respondents: NPS Rangers, supervisors and park managers. The respondents would be able to answer the questions either by going to a website prepared by the researchers or by mailing the survey back to the researchers. The questions (concepts outlined above) would be developed in consultation with designated NPS personnel and/or retired NPS employees. This survey would be used to collect information from a very broad group of NPS employees.

The second stage of the study is a follow up the first stage. This stage is much more intensive and is intended to provide very specific information that could be generalized across the park system. The researchers will visit parks reporting either no assaults or a large number of assaults. Using the information collected in stage one, an open-ended interview format will be used to gather additional information that cannot be gathered using a survey method. The researchers will interview NPS Rangers, supervisors and park managers concerning the role of law enforcement in the parks and concerns about the high rate of assaults occurring in the National Park system. Additionally, information will be collected concerning the stated, projected and actual image of a NPS Ranger relative to the mission of the National Park Service.

The sites at which interviews would be scheduled have been selected for any one of the following reasons: high number of assaults, location (rural/urban), type of activities available (camping, water sports, day visit site only), high profile park, relative location to large populations, and/or no reported assaults in the last 5 years. The objective is to conduct interviews in a diversity of parks; thus, increasing the ability to generalize the findings to all parks. Additionally, the selection of parks allows the researchers to do the interviews in the setting in which the interviewees work. This method allows access to information about working and living conditions as well as issues external to the park that might have an impact on the level of assaults in each park. The following parks have been selected based on the criteria described above.

Saguaro National Park – Organ Pipe Cactus National Monument – Joshua Tree National Park – Lake Mead National Recreation Area – Death Valley – Kings Canyon National Park – Yosemite National Park – Golden Gate National Recreation Area – Lassen Volcanic National Park –

Glacier National Park – Yellowstone National Park – Devil’s Tower National Monument – Mount Rushmore National Memorial – Wind Cave National Park – Badlands National Park – Voyageurs National Park – Indiana Dunes National Lakeshore – Parks in the Washington, DC area – Shenandoah National Park – Cumberland Gap National Historical Park – Jefferson National Expansion Memorial, Natchez Trace Parkway – Rocky Mountain National Park – Arches National Park – Canyonlands National Park – Glen Canyon National Recreation Area – Grand Canyon National Park (South Rim).

The researchers (Gould and Nielsen) will travel to each of the above named parks, with plans, where possible, to stay in either park or nearby camp grounds. The visits to the parks would occur over about a 75 day trip during the summer of 2006. To insure enough time to conduct the interviews and collect other information, the researchers would spend two to three days in each park.

The researchers would provide their own transportation, with mileage, lodging and per diem to be covered under the grant. The researchers would be provided 2 laptops, 1 printer, 2 digital voice recorders, and a transcription machine by the College of Social and Behavioral Sciences.

Responsibilities:

The principal and co-principal investigators will oversee all aspects of the data collection and plan development, in consultation with the appropriate NPS officials, including but not limited to park managers, supervisors, individual rangers, Washington-based staff and training staff. The principal and co-principal investigators will also be responsible for completion of required reports and publications. The principal investigator will also be responsible for maintaining security over any sensitive data including personnel identifiers and work products which have not been approved for distribution by the National Park Service.

Dr. Gould will be responsible for over sight and management of the project. He will also have primary responsibility for development of the closed-ended survey instrument. Additionally, he will over-see the administration of the survey, collection, coding and analysis of the information.

Dr. Nielsen has had extensive experience with the development and administration of organizationally-based interview schedules, particularly in face-to-face situations in which respondents might be reluctant to discuss sensitive issues. She will over see the development

of the interview schedules and will assist Dr. Gould in administering the interviews in the field. Additionally, Dr. Nielsen will over-see the deconstruction and analysis of the interviews.

The principal investigator will coordinate all conference calls and on-site meetings informing participants of agendas, times and locations, and maintaining open communications with members of the development and instructor teams. It will be the duty of a designated official with National Park Service to assist the co-principal investigators in setting up the interviews at the various parks by providing names, email addresses and phone numbers of Park Service employees. The National Park Service must use the necessary authority to insure, as much as possible, that National Park Service employees are available for the interview.

Co-principal investigator Dodd, also a NPS commissioned employee, will facilitate introductions to all park managers, supervisors and rangers, while aiding in the continued records retrieval from the various NPS sites where they may be stored. He will also serve as a subject matter expert on NPS records systems, access and coding procedures, as may be necessary for this project. He will also assist in the design of the survey and interview instrument.

The research assistant will help develop, code and enter data from the surveys. Additionally, the research assistant will coordinate the research office while the researchers are traveling to the parks. This will include assistant in coordinating travel plans, meetings and interviews. Additionally the research assistant will start transcribing tapes sent back to the research office from the field.

Consultant Johnson will serve as a subject matter expert on NPS and conservation law enforcement conditions. He will also identify policy, training or procedure issues for further exploration and improvement. He will serve as the primary conduit to the NPS law enforcement training community at FLETC.

It is the responsibility of the co-principal investigators to maintain the confidentiality of the information received. No information will be attributed to any single individual employee of the National Park Service. The co-principal investigators will retain possession of all of the original data and information, providing the National Park Service with reports as described in the next section.

Deliverables and Schedule:

The project would be scheduled for a start date of January 1, 2006.

The first deliverable, for review purposes, is the survey instrument(s) which is to be administered to park managers, supervisors and NPS Rangers. Due: March 15, 2006.

The second deliverable is a preliminary summary of the findings from the survey instrument. Due: July 15, 2006.

The third deliverable is a final report that combines the findings of the survey and the face-to-face interviews. Due: January 30, 2007.

Two paper copies and an electronic copy of each of the above deliverables will be provided to the National Park Service Office of Law Enforcement and Emergency Services 1201 Eye Street, NW, Washington D.C. 20005 10th Floor attention: Chief Don Coelho.

Another complete set will be provided to the National Park Service, Office of Risk Management, attention Richard Powell, as the same address

When the final report is accepted by Chief Coelho, an additional set of paper and electronic reports will be furnished to the National Park Service, Federal Law Enforcement Training Center Building 64 Tucson Avenue, Brunswick, GA 31520 attention: Superintendent Donald Usher. Further, the principal investigator will be available for one presentation of the methodology and findings of this, and the previous study, at FLETC. The time, date, travel funding and target audience to be later established.

The principal investigator recognizes that further presentations to NPS groups such as chief ranger's conferences may be advisable in the future. The travel costs and arrangements for those presentations are not part of this proposal; thus, would be supported by other Park Service funding.

The final report will contain a report abstract that is suitable for public distribution. Two paper copies and an electronic version of the final report will be provided to the Colorado Plateau Cooperative Ecosystem Studies Unit prior to final payment. The address is: Research Coordinator, NPS, CPCEU, Northern Arizona University, P.O. Box 5765, Flagstaff, AZ 86011. The draft final report is due January 3 2007. The park key official will make necessary comments within 2 weeks of receipt of the draft. The principal investigator will then have two additional weeks to respond to and/or incorporate these comments. The final report is therefore due January 30, 2007.

Draft Budget for Continuation of Ranger Assault Study - Phase II

Personnel:	CY Salary	Cost per hour	Hours	Cost
Spring 2006				
Gould, Larry	\$77,522	\$ 37	200	\$7,454
Nielsen, Marianne	\$52,667	\$ 25	421	\$10,525
G.A.		\$ 12	1040	\$12,480
Summer 2006				
Gould, Larry	\$77,522	\$ 37	672	\$25,046
Nielsen, Marianne	\$52,667	\$ 25	672	\$17,015
Dodd, Steve	\$37,450	\$ 18	140	\$2,521
G.A.		\$ 12	1040	\$12,480
Fall 2006				
Gould, Larry	\$77,522	\$ 37	200	\$7,454
Nielsen, Marianne	\$52,667	\$ 25	210	\$5,250
G.A.		\$ 12	1040	\$12,480
TOTAL PERSONELL				\$112,705
ERE				
Gould	23.70%			\$9,469
Nielsen	27.30%			\$8,952
Dodd	31.80%			\$802
G.A.	1%			\$250
Medical Insurance				\$1,321
Tuition Remission				\$1,200
TOTAL ERE				\$21,993
Travel:				
	Miles	Cost/Mile		
Mileage	10189	\$0.35		\$3,515
	Days	Cost	Factor of 1.5	
Per diem	70	\$29.50	1.5	\$3,098
	Days	Average Cost		
Lodging	70	\$35.72		\$2,500
TOTAL TRAVEL				\$9,113
Consultant				
Ken Johnson				\$3,000
Materials/Supplies				
Phone Costs				\$300
Mailing Costs				\$1,750
Digital Tapes				\$250
Supplies				\$550
TOTAL SUPPLIES				\$2,850
Total Direct Cost				\$146,661
IDC 17.5% TDC				\$25,666
Total Project Costs:				\$172,327