

Evaluation of Off-highway Vehicle Skills and Ethics Training Programs Occurring on Public Lands: The TreadLightly! Visitor Education Program



Photo: Wade Vagias 2009

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	6
INTRODUCTION	7
SIGNIFICANT RESULTS.....	8
EXECUTIVE SUMMARY	9
SECTION I – BACKGROUND	17
SECTION II-TL!, SITE DESCRIPTIONS AND TL! PROMOTION	19
Big Cypress National Preserve.....	20
Canyonlands National Park	27
Imperial Sand Dunes Recreation Area.....	31
SECTION III – CONCEPTUAL FOUNDATION	41
SECTION IV – METHODS.....	44
Survey Development.....	44
Survey Themes	45
Sampling Procedures and Response Rate	46
Data Preparation	47
SECTION V – DESCRIPTIVE RESULTS.....	48
Visitor Characteristics	48
Trip Characteristics and Experience Use History.....	49
Skill Level.....	51
Motivations for Operating OHV/ORVs	52
Vehicle Type	53
Diffusion of the TL! Message: Communication and Education	54
Attitudes regarding the TL! Program and Message	55
Communication Channels and Sources of TL! Information.....	56
Opinions and Attitudes toward TL! Principles pertaining to OHV/ORV Use	60
Travel responsibly: Safety.....	60
Travel responsibly: Attitudes toward OHV/ORV Regulations.....	61
Respect the rights of others.	63
Educate yourself.	64
Avoid sensitive areas.	65
Do your part.	67
Composite and Global Attitudes.....	68
Behavioral Intentions	69
OHV/ORV Influences and Experiences	71

Norms.....	71
Early life experiences.....	72
Attitudes toward NPS/BLM.....	73
Volunteering.....	74
Philanthropy.....	75
Volunteering and Donating to Site.....	76
Ethic: Attitudes toward the outcome of TL! recommended behaviors.....	77
Composite Measures of Influences and Experiences.....	78
SECTION VI –CORRELATIONS BETWEEN ATTITUDES AND BEHAVIORAL INTENTIONS.....	80
Introduction.....	80
Demographics – Attitude and Behavioral Intentions.....	80
Trip Characteristics – Attitude and Behavioral Intentions.....	80
Experience Use History – Attitude and Behavioral Intentions.....	81
Early Life Experiences.....	81
Diffusion of Innovations – Individual Decision Process.....	82
Communication Sources.....	82
Theory of Reasoned Action: Relationship between Norms, Attitudes and Intentions.....	83
Relationship between Volunteering, Philanthropy, Ethics, Attitudes and Behavioral Intentions.....	84
SECTION VII—SITE SPECIFIC QUESTIONS.....	85
CANY.....	85
BICY.....	85
ISDRA.....	86
SECTION VIII –CONCLUSIONS & MANAGEMENT RECOMMENDATIONS.....	88
Summary & Conclusions.....	88
Key Findings and Management Implications.....	88
REFERENCES.....	93
APPENDIX I - TL! BROCHURE.....	96
APPENDIX II - QUESTIONNAIRES.....	98
APPENDIX III- COMMENTS FROM RESPONDENTS.....	106
CANY.....	106
BICY.....	116
ISDRA.....	128

LIST OF TABLES

E.1: Primary Sources of TL! Information by Site.....	14
2.1: ISRDA 2010 fee system.....	32
4.1: Response Rate.....	47
5.1: Demographic Characteristics.....	48
5.2: Trip Characteristics and Experience Use History.....	50
5.3: Self-Reported OHV/ORV Skill Level.....	51
5.4: Motivations for Operating ORV/OHV.....	52
5.5: OHV/ORV Type.....	54
5.6: Descriptive Statistics of Awareness and Year First Hearing of TL!.....	54
5.7: Descriptive Statistics of Awareness and Current Knowledge of TL!.....	55
5.8: Means, Standard Deviations, and Percent Distribution of Opinions Regarding TL! Message	56
5.9: Use and Effectiveness of Sources of TL! Information.....	58
5.10: Means, Standard Deviations, and Percent Distribution of Attitudes: Travel Responsibly – Safety.....	61
5.11: Means, Standard Deviations, and Percent Distribution of Attitudes: Travel Responsibly...	62
5.12: Means, Standard Deviations, and Percent Distribution of Attitudes: Respect the Rights of Others.....	64
5.13: Means, Standard Deviations, and Percent Distribution of Attitudes: Educate Yourself.....	65
5.14: Means, Standard Deviations, and Percent Distribution of Attitudes: Avoid Sensitive Areas	66
5.15: Means, Standard Deviations, and Percent Distribution of Attitudes: Do Your Part.....	67
5.16: Means and Standard Deviations of Composite Measures of TL! Principles.....	68
5.17: Means and Standard Deviations of Global Measure of TL! Principles.....	69
5.18: Means, Standard Deviations, and Percent Distribution of Behavioral Intentions.....	70
5.19: Mean and Standard Deviation of Global Behavioral Intentions.....	70
5.20: Means, Standard Deviations, and Percent Distribution of Influences and Experiences: Norms.....	71
5.21: Means, Standard Deviations, and Percent Distribution of Influences and Experiences: Early Life Experiences.....	72
5.22: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Attitudes toward NPS/BLM.....	73
5.23: Means, S.D., and % Distribution of Influences and Experiences: Volunteering.....	74
5.24: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Philanthropy.....	76
5.25: Philanthropy, Maintenance, and Cleanup Activities and Contributions.....	77
5.26: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Ethic.....	78
5.27: Means and Standard Deviations of Composite Measures of Influences and Experiences	79
6.1: Correlations among Global Attitudes and Behavioral Intentions with Age, Trip Characteristics, Experience Use History, and Early Life Experiences.....	81
6.2 Correlations between self-reported knowledge of TL!, attitudes toward TL! actions, and intentions to perform TL! behaviors.....	82

6.3: Correlations among Global Attitudes and Behavioral Intentions with Diffusion Sources...	83
6.4: Theory of Reasoned Action: Relationship between Norms, Attitudes and Intentions.....	84
6.5: Correlations among Global Attitudes and Behavioral Intentions with Composite Measures of Influences and Experiences.....	84
7.1: CANY specific questions.....	85
7.2: BICY specific questions.....	85
7.3: ISDRA willingness to pay for permit results.....	87

LIST OF FIGURES

2.1: BICY map.....	20
2.2: BICY ORV access information.....	21
2.3: BICY ORV permit guidelines.....	22
2.4: BICY backcountry permit and ORV permit.....	22
2.5: BICY ORV area maps.....	23
2.6: BICY ORV rules and regulations.....	24
2.7: BICY postings at access points.....	24
2.8: BICY signage.....	25
2.9: BICY website with TL! link.....	26
2.10: CANY map.....	27
2.11: CANY backcountry 4WD roads and trail maps.....	28
2.12: CANY backcountry regulations and guidelines.....	29
2.13: CANY website and link to 'The Fragile Desert' video.....	30
2.14: CANY Superintendent's letter.....	30
2.15: ISDRA map.....	31
2.16: ISDRA visitation from 2004-2008.....	32
2.18: BLM's management of the Endangered Peirson's Milk Vetch.....	33
2.19: ISDRA maps and information.....	33
2.20: ISDRA website.....	34
2.21: California OHV Laws and Regulations brochure.....	34
2.22: Take it Outside program.....	35
2.23: ASA educational brochures.....	35
2.24: Safety flags.....	36
2.25: 'Dune Smart' booklet.....	36
2.26: ASA dvd.....	36
2.27: ORBA brochure.....	37
2.28: Imperial County Sheriff's Office Camp Smart and Permit Compliance brochures.....	37
2.29: El Centro field office's ISDRA map.....	38
2.30: ISDRA website.....	38
2.31: TL! kids brochure.....	39
2.32: TL! young rider activity cards.....	39
2.33: TL! brochure.....	40
3.1: Theory of Reasoned Action.....	42

5.1: Self-Reported OHV/ORV Skill Level.....	51
5.2: Travel Responsibly – Safety.....	61
5.3: Travel Responsibly.....	63
5.4: Respect the Rights of Others.....	63
5.5: Educate Yourself.....	65
5.6: Avoid Sensitive Areas.....	66
5.7: Do Your Part.....	67
5.8: Norms.....	72
5.9: Early Life Experiences.....	73
5.10: Attitudes toward NPS/BLM.....	74
5.11: Volunteering.....	75
5.12: Philanthropy.....	75
5.13: Ethic.....	78
7.1: ISDRA willingness to pay for permit results.....	87
8.1/ 8.2: Examples of TL! Targeted and Theoretical Communication.....	90

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INTRODUCTION

Formally adopted by the National Park Service in 1998, the “Tread Lightly!” (TL!) off-highway vehicle (OHV) skills and ethics education program is based on five “best practices” or principles that support resource stewardship. However, no research has examined the effectiveness of this educational campaign or mechanisms for its improvement. In response to this need, the Wilderness Stewardship Division, NPS Washington Office, funded a study designed to help understand both the effectiveness of the TL! message and to identify salient factors that can be used to explain ORV operator attitudes toward TL! recommended practices. Three federally managed sites were selected for the study: Big Cypress National Preserve (BICY) in Florida, Canyonlands National Park (CANY) in Utah, and Imperial Sand Dunes Recreation Area (ISDRA) in California.

This report presents the findings from this research about the effectiveness of the Tread Lightly (TL!) off-highway vehicle skills and ethics visitor education program. The report is organized into eight sections: Immediately following this introduction is the list of key research findings and an executive summary. Section I contains background information and further explains the purpose of the study. Section II provides an overview of TL! and a description of each site including their education and promotion strategies. Section III explains the two theoretical frameworks that guided the development of the questionnaire used in the study. Section IV details the methods and procedures utilized, including variable development, sampling procedures, data collection and response rates. Section V describes the respondents from each site, the results of each question, and provides some comparisons between sites. Note: these results are not presented in the same order as the questionnaire (see Appendix 2). Section VI explores the important relationships between the primary study variables, such as attitudes toward TL! principles, the experience of the visitor, attitudes toward the managing agency, and intentions to engage in TL! supportive behaviors. Section VII presents the results from the site-specific questions. Section VIII presents a discussion of the results, conclusions, and recommendations.

There are three appendices in this report. Appendix I contains a full list of TL! principles and associated recommended behaviors for OHV/4 wheel drive use that are thought to promote resource stewardship and mitigate negative environmental and social impacts. Appendix II contains a copy of one of the questionnaires. Appendix III presents the comments provided by each respondent regarding TL! and OHV/ORV management.

Finally please note that each site and the corresponding respondents drive different vehicles and refer to their vehicles using different terms. In BICY, respondents refer to the range of vehicles that are legally permitted as Off Road Vehicles (ORV). In CANY, only street legal vehicles are allowed to travel on particular backcountry roads and trails, for this study we referred to those street legal four wheel drive vehicles and motorcycles as Off Highway Vehicles (OHV). In ISDRA, respondents and stakeholders also refer to the range of vehicles that operate in the dunes as OHVs. These vehicles may include non street legal such as ATVs, Utes, Sand Dune Buggies, and Sand Rails or street legal vehicles.

SIGNIFICANT RESULTS and MANAGEMENT IMPLICATIONS

- Respondents had positive attitudes toward the TL! message and program.
- Attitudes toward the specific recommended TL! behaviors were generally positive but there was some variation. The results suggest that educational efforts need to target not only the 5 general principles but, more importantly, the specific behaviors that underpin the program. This research suggests that the educational messages must target each specific behavior in order to inform visitors regarding specific and appropriate TL! behaviors.
- NPS and BLM outreach strategies used to disseminate the TL! message (talks/videos, website and literature) were one of the most important sources of TL! information and were deemed moderately effective at increasing knowledge of respondents.
- NPS and BLM outreach strategies used to disseminate the TL! message (talks/videos, website and literature) had consistently positive correlations with positive TL! attitudes and TL! behaviors. This suggests that these efforts are very important for promoting TL! and other resource protection messages.
- As attitudes strengthen (increase in a positive direction) regarding the appropriateness of various driving behaviors, intentions to perform TL! recommended behaviors also increase. Thus, educational efforts that target visitor's salient attitudes (i.e. targeting attitudes toward the outcome of specific behaviors) toward recommended TL! practices will likely result in behavior changes in the desired direction.
- Positive attitudes toward the managing agency (NPS or BLM) are aligned with more positive TL! attitudes and recommended behaviors. Thus, managers should continue efforts to maintain or enhance relationships and build trust with visitors and OHV stakeholder groups.
- A higher level of experience does not necessarily correlate with either positive attitudes or behavioral intentions that are consistent with recommended TL! principles. It is likely that more experienced users feel they 'know what they need to know' regarding TL! and thus are less likely to pursue TL!/NPS/BLM education.
- In CANY, younger overnight visitors who drove 4 wheel drive vehicles have less positive attitudes toward TL! recommended behaviors than older overnight visitors who drove 4 wheel drive vehicles.
- At least at CANY, individuals in larger groups are less likely to intend to perform appropriate TL! behaviors than those in smaller groups.
- At BICY, more frequent ORV visitors hold less positive attitudes and less frequently intend to follow TL! behaviors than visitors that visit BICY less frequently.
- At BICY and ISDRA approximately 1/3 of respondents indicated a positive intention to volunteer as well as donate money for the improvement and conservation of the respective site. Management could continue to provide opportunities for visitors to volunteer and develop easy mechanisms for donating money. Research on volunteering and philanthropy suggest that making a desired behavior as easy as possible increases participation (see Powell & Ham, 2008).

EXECUTIVE SUMMARY

Introduction

Formally adopted by the National Park Service in 1998, the “Tread Lightly!” (TL!) off-highway vehicle (OHV) skills and ethics education program is based on five “best practices” or principles that support resource stewardship (see Appendix 1). Since that time, the TL! program and message has been promoted at varying levels and through various means across federally managed public lands. However, no research has examined the effectiveness of this program or mechanisms for its improvement. In response to this need, the Wilderness Stewardship Division, NPS Washington Office, funded a study designed to investigate the effectiveness of the TL! program. Three federally managed sites—Big Cypress National Preserve (BICY) in Florida, Canyonlands National Park (CANY) in Utah, and Imperial Sand Dunes Recreation Area (ISDRA) in California—were selected for the study.

Specifically, this study was undertaken to examine the degree to which the TL! message has been diffused amongst OHV/ORV drivers that are visiting public lands and the effectiveness of the TL! visitor education program. This study used two theories, the Diffusion of Innovations theory and the Theory of Reasoned Action, to guide the research about the diffusion of the TL! message and how well the public is following TL! recommended behaviors. The study is also intended to provide a baseline of understanding and the necessary foundation for the development of a larger scale research effort to fully assess the effectiveness of the TL! program on public lands. Finally, this study aims to inform management decisions regarding the future direction of the TL! program and improve existing education tools to reach a broader segment of the recreating public and enhance both enjoyment and resource protection.

At each site a sample of 600 individuals were mailed an introductory letter and a questionnaire with a return envelope. Follow-up reminder post cards and another questionnaire were sent to non-respondents in an effort to improve the response rate. In BICY we systematically selected individuals for inclusion in the study from the 2009 Off-Road Vehicle (ORV) Permit holders list (n=1865). For CANY we also systematically selected individuals for inclusion in the study from the 2009 Overnight Backcountry Driving Permit list (n=2965). For ISDRA, we used the 2009 American Sands Association membership list (n=29,000) as a sampling frame (see <http://www.americansandassociation.org> for more information). American Sand Association (ASA) works closely with Bureau of Land Management to provide TL! education for ISDRA. Using the 2009 ASA membership mail list, we stratified the sample by zip codes in areas proximate to ISDRA in the states of CA and AZ. Response Rates were 50.2% for BICY, 69% for CANY and 30% for ISDRA. The overall response rate was 50% for the study.

Respondent Characteristics (Demographics)

The sample is approximately 88% male with mean ages ranging from 50 for CANY respondents to 46 for ISDRA respondents. Over 98% of the total sample (all respondents) were white. Education levels varied considerably between the three sites. Over 95% of CANY respondents reported

having more than a high school education while 59% of BICY and 73% of ISDRA reported earning a high school degree or higher.

Motivations for Participation

Respondents were asked to respond 'Yes' or 'No' to a series of items regarding their motivation to operate their ORV/OHV. If a respondent selected 'yes,' they were asked the level of importance of the respective item on a scale of 1 = Not Very Important to 7 = Extremely Important. Across all three samples, a few of the most common and important motivations included trail/leisure riding, camping, and family/friends outing. Camping and family/friends outing for all three samples were very important motivations for respondents. There were also some noticeable differences in motivations between the samples. For example, 87% of CANY respondents and 75% of BICY respondents were motivated to drive an OHV/ORV to get "access to otherwise inaccessible areas" while only 49% of ISDRA respondents indicated that it was a motivation. 67% of CANY and 91% of BICY respondents were motivated by wildlife viewing and only 37.4% of ISDRA respondents were motivated by wildlife viewing. Similarly, only 19% of CANY respondents and 15.5% of BICY respondents were motivated to drive their OHV/ORV by sport/aggressive recreation driving while 77% of ISDRA respondents were motivated by this item. Hunting was also a very important motivation for BICY ORV enthusiasts (79%) while only 9% of CANY (not legal in CANY) and 19% of ISDRA respondents indicated this as important.

Trip and Vehicle Characteristics

Respondents indicated that they visited the respective sites to participate in OHV/ORV operation as many as 11.4 times per year in BICY to 1.6 times per year in CANY. Average group size ranged from a low of 4.4 at BICY to a high of 14.6 at ISDRA. The average number of OHV/ORVs in a group ranged from 1.8 at CANY to 9.1 at ISDRA. The respondents spent an average of between 3.9 days at ISDRA, to 5.2 at CANY, to over 17 days at BICY.

The vehicle types used depended on the regulations of the site and the ecological conditions. At ISDRA, which is primarily sand dunes, 40% reported using a dune buggy or dune rail and 54% reported using an ATV or UTV. At BICY, which during certain times of year is very swampy and muddy, over 44% reported using a swamp buggy and 47 % reported using an ATV/UTV. At CANY, which has regulations requiring the use of street legal vehicles, 95% used a street legal 4X4 and 4% reported using a street legal motorcycle.

Experience Use History (EUH)

ISDRA respondents reported having over 25 years of experience driving an OHV. CANY respondents reported the least amount of off-road driving experience with 18 years and BICY respondents reported on average 22.3 years of experience. On average, respondents indicated they drove an OHV off-road a total of between 22.6 (BICY) and 30 days (ISDRA) in the last year depending on site. When asked to respond to the statement, 'Please rate your skill level in driving an OHV/ORV off-road' using a 5 point scale: 1=novice to 5=expert, CANY had the lowest mean skill level with a 3.57 (intermediate+), ISDRA had a mean of 4.15 (advanced+), and BICY reported the highest skill level with a mean of 4.3 (advanced+). Approximately 83% percent of CANY

respondents indicated that they were either an intermediate or advanced driver. Forty-four percent of BICY respondents indicated they were advanced and approximately 43% indicated they were expert drivers. Sixty percent of ISDRA respondents indicated they were advanced and 27% indicated they were expert drivers.

Diffusion of the TL! Message

Diffusion of Innovations (DIT) theory suggests that new ideas are not immediately adopted into society, they take time and may succeed or fail for any number of reasons; DIT critically examines the antecedents of this acceptance (Rogers, 2003). Rogers (2003) posits there are five explanatory factors that, taken together, account for the adoption of an innovation: (1) the individual innovation-decision process, (2) the perceived attributes of the innovation, (3) communication channels, (4) the nature of the social system, and (5) the extent of change agents' promotion efforts.

In this study, we investigated the individual innovation-decision process (1) by examining visitors' awareness, knowledge, attitudes, and intentions regarding TL! recommended practices. We also examined the perceived characteristics of the innovation (2), which in this case is the TL! message. In addition we explored the communication channels (3) utilized by the 'change agents' (in this case promoters of TL! such as the NPS or BLM) and their effectiveness in promoting the LNT message (5).

1) Individual Innovation-Decision Process: Awareness, Knowledge, Attitudes, and Intentions:

First we investigated the individual innovation-decision process. The individual innovation-decision refers to the internal process from when an individual is first made aware of an innovation to when they accept or reject the innovation. During this process Rogers suggests there are five components: *knowledge* – when an individual becomes AWARE and then KNOWLEDGEABLE of an innovation; *persuasion* – when an individual forms a favorable/unfavorable ATTITUDE regarding the innovation; *decision* – when an individual INTENDS to adopt or reject the innovation; *implementation* – when an individual USES the innovation; and *confirmation* – when an individual REINFORCES the decision about the innovation (Rogers, 2003, pp. 169-181). To fully understand the level of diffusion and acceptance of the TL! message, we examined Awareness of TL!, knowledge of TL! , Attitudes toward TL! recommended behaviors, and Intentions to perform TL! behaviors.

Awareness of the TL! Message: The TL! message, at least in name recognition, appears to be relatively well diffused. When asked, 'have you ever heard of Tread Lightly!?' 77% of CANY respondents, 62% of BICY respondents, and 69% of ISDRA indicated 'yes.' As a follow-up, respondents who answered 'yes' were asked to indicate the year they first heard of TL!, which was around 1993 to 1994.

Knowledge of TL!: Respondents who indicated they were aware of TL! were asked to report their self-described level of current knowledge of TL! Response categories ranged from 1 = No Knowledge to 7 = Expert Knowledge. CANY respondents had the highest self-reported knowledge

level at close to 5.00. BICY and ISDRA respondents both reported a knowledge level above 4.00, which corresponds with average knowledge.

Attitudes Regarding Specific TL! Practices: To investigate attitudes toward TL! practices, questions were organized by the 5 TL! principles: *Travel Responsibly, Respect the Rights of Others, Educate Yourself, Avoid Sensitive Areas, and Do Your Part*. Respondents' attitudes toward the appropriateness of specific TL! practices were generally supportive. However, when investigating the attitudes toward specific recommended practices, the results suggest that certain recommended behaviors were not currently understood or supported, or they were not seen as relevant to the particular site.

Travel Responsibly: This principle was broken into two sub-themes: safety and attitudes toward OHV/ORV regulations. Responses to the 3 questions pertaining to safety (Table 5.10 and Figure 5.2) varied depending on site. For example, over 86% of CANY respondents indicated some level of agreement with the item, *"I believe it is important to walk challenging terrain before attempting to navigate it in my OHV/ORV"* while 53.6% of BICY and 39.3% of ISDRA respondents had some level of agreement. Another item, *"a single ORV/OHV traveling alone is unsafe"* also had wide variability with approximately 1/3 of CANY and BICY respondents agreeing with the statement while 78% of ISDRA respondents had some level of agreement with the statement. However, responses to the question, *"scouting an area before driving at high speed is essential"* received consistently supportive responses from respondents at the three sites.

When investigating the attitudes toward OHV/ORV regulations, 4 questions were used. Responses indicated general support for following regulations (Table 5.11 and Figure 5.3). However, in each of the sites some percentage of individuals did not agree with regulations that limited their freedom pertaining to OHV/ORV use. For example, when asked their level of agreement with the statement: *"It is my right to drive my ORV/OHV where I want on public lands"* 4.5% of CANY respondents, 29.5% of the BICY respondents, and 22.7% of the ISRDRA/ASA respondents indicated some level of agreement with the statement. When asked to respond to the statement: *"Driving my ORV/OHV where they are not allowed will leave no lasting environmental impact to XX area"* 4% of CANY respondents, 27.3% of BICY respondents, and 20% of ISDRA respondents indicated some level of agreement with the statement. Finally when asked to respond to *"ORV/OHV operators should be allowed to drive wherever they want in XX area,"* 2% of CANY, 22% of BICY, and 41.5% of ISDRA respondents had some level of agreement with the statement.

Respect the Rights of Others: We used 4 questions to investigate this principle (Table 5.12 and Figure 5.4). Generally, the respondents had supportive attitudes toward the recommended TL! practices pertaining to this principle. BICY respondents had one exception, for the item *"If I am in a designated ORV/OHV area, the noise from my vehicle shouldn't bother anyone"* 18.5% of CANY, 46.1% of BICY, and 39% of ISDRA respondents had some level of agreement. Similarly, 48.5% of ISDRA respondents had some level of agreement with the item *"I am opposed to being told how fast I can drive"* while 11.5% of CANY and 16.6% of BICY respondents had some level of agreement.

Educate Yourself: The Educate Yourself principle was measured with four items that assessed attitudes toward educating oneself regarding the regulations of the respective site, taking OHV/ORV driving courses, and possessing and knowing how to operate appropriate equipment safely. Respondents generally agreed with all items except one, where the mean scores were closer to neutral. Fifty-two percent of CANY respondents, 20.4% of BICY, and 32.7% of ISDRA/ASA respondents had some level of disagreement with being required to take a driving and safety course before operating a vehicle in XX area.

Avoid Sensitive Areas: This principle was investigated using 5 questions (Table 5.14 and Figure 5.6) and encourages visitors to remain on designated roads and routes and not disturb sensitive habitats and wildlife such as wetlands and streams. In general, respondents supported the idea of avoiding sensitive areas and mitigating their impact on wildlife with a few exceptions. For example, 19% of CANY, 55.2% of BICY, and 27.9% of ISDRA respondents indicated agreement that their vehicle does not bother wildlife. Another exception, CANY (71.1%; $m = 5.42$) and BICY (59%; $m = 4.95$) respondents displayed some recognition that there are endangered plants and animals where they drive their ORV/OHV while 37.3% of ISDRA respondents' ($m=3.65$) indicated some level of disagreement with the statement.

Do Your Part: This principle reflects visitors desire to leave the recreation area better than they found it and was measured using 4 items (Table 5.15 and Figure 5.7). There was consistent support for the behaviors related to *doing your part*. In particular, the results indicate that there is high recognition amongst all respondents that breaking regulations may negatively impact future access.

Behavioral Intentions to Comply with TL! Practices: Respondents were asked a series of 11 questions to investigate their intentions to adhere to TL! practices. Results indicated that across the three sites, respondents were fairly unified and positive regarding their intentions to follow promoted TL! practices. For example, the item 'ride off designated trails (areas)' had mean scores indicating respondents did not intend to ride off trails. When a composite measure was created (summing all items and dividing by 11) to assess overall intentions to follow TL! practices, CANY respondents scored an average of 5.92 compared to 5.63 at BICY and 5.64 at ISDRA on a 7-point scale.

2) Attitudes Regarding the TL! Program and Message (the innovation): Respondents who indicated they were aware of TL! were also asked about their opinions regarding the TL! program. Respondents generally had favorable opinions of the TL! message with mean ratings for the most part above neutral. For example, all three respondent groups had a mean above 5.00 when asked if the TL! message made them think about ways to minimize the impacts caused by their ORV/OHV. Fifty-two percent of CANY, 41% of BICY and 43.5% of ISDRA respondents also indicated some level of agreement regarding learning new information on how to reduce their own OHV's impact from TL!. Similarly, 69% of CANY, 52% of BICY, and 48% of ISDRA respondents indicated that the TL! education program influences their driving behaviors. However, all three groups had a mean score near neutral regarding their opinion that the TL! principles are too general. In fact, depending on site, between 63 and 76% of people responding to this question were neutral or agreed that the TL! principles were too general.

3) Sources of the TL! Message: Respondents who had heard of TL! were asked to indicate (Yes or No) what sources were used to learn about TL!. The respective park literature was the most common source of information, ranging from 45% in ISDRA to 67% in CANY. ISDRA respondents, who were all ASA members, indicated that the most prevalent source of TL! information was the American Sand Association literature and website with 71% indicating they used this source. The most prevalent source of TL! information for BICY and CANY respondents was the NPS literature with 59% and 67% respectively indicating that they used this source.

Table E.1: Primary sources of TL! Information by Site

	<i>Source 1</i>	<i>Source 2</i>	<i>Source 3</i>
<i>CANY</i>	<i>NPS literature</i>	<i>TL! literature</i>	<i>Magazines or books</i>
<i>BICY</i>	<i>NPS literature</i>	<i>ORV driving course</i>	<i>NPS educational talk/video</i>
<i>ISDRA</i>	<i>ASA literature/ website</i>	<i>BLM literature</i>	<i>Magazines or books</i>

5) Effectiveness of Sources in Promoting TL!: If an individual used one of the sources listed in the survey, then they were asked the amount learned on a scale of 0 = Nothing to 6 = Extensive Amount. The average amount they learned from the respective literature or source was very consistent and was slightly above the moderate amount level (approximate mean of 4). This seems to indicate that if a source was used for information regarding TL!, they were moderately effective in diffusing the message.

Other Findings

Attitudes toward the Managing Agency: Three items measured respondents’ attitudes toward the NPS/BLM (Table 5.22 and Figure 5.10). Generally, the respondents indicated that they trusted and respected the NPS/BLM and thought it was important to follow their regulations.

Normative Influence Regarding Specific TL! Practices: The influence of peers on individual decision making (individual norms) was evaluated using 4 statements. Generally respondents indicated that group members had little influence over how and where they drove their vehicle (Table 5.20 and Figure 5.8).

Volunteering and Philanthropy: Although all groups agreed volunteering to maintain and improve ORV/OHV designated areas/trails is beneficial, only BICY respondents resulted in a mean above neutral (4.00) when asked if they intend to volunteer for one day in the next 12 months. Eleven percent of CANY, 36.3% of BICY, and 27.8% of ISDRA/ASA respondents indicated agreement that they intended to volunteer for one day in the next year. Similarly, all groups overwhelmingly agreed that donating money for the improvement and conservation of a site is worthwhile but only 26.4% of CANY, 37.9% of BICY, and 40.1% of ISDRA respondents indicated they intended to donate 25-50\$ to the NPS/BLM for the improvement of the respective site.

Why Do Some Visitors Intend to Follow the TL! Practices and Others Do Not?

To investigate why some visitors intend to follow TL! recommended practices and other do not, we explored the relationship between a range of potentially important respondent characteristics and attitudes toward TL! practices and intentions to perform TL! practices.

Relationship between Age, Experience, and Trip Characteristics and Attitudes and Intentions to perform TL! Behaviors:

Age: In the CANY sample (Table 6.1), age was positively correlated with TL! attitudes, which means as age increased their attitudes or agreement with TL! principles increased.

Experience: For CANY and BICY samples, there was a significant and negative relationship between OHV/ORV skill level and global TL! attitudes and behavioral intentions. This means that individuals that reported high levels of skill, had less positive attitudes toward TL! recommended actions and decreased intentions to perform these actions.

Trip Characteristics: For the BICY sample, the number of trips to the Preserve and the number of days spent in the Preserve were both negatively correlated with positive TL! attitudes and intentions. However, the larger the group size in BICY, the more positive the attitudes toward TL! and stronger the intentions to perform TL! behaviors. For the CANY respondents, the larger the group size the less likely an individual intended to follow TL! behaviors.

Relationship between Communication Sources and Attitudes and Intentions to Perform TL! Behaviors

Educational materials and media provided by the NPS and BLM had a consistently positive relationship with TL! friendly attitudes and behavioral intentions. TL! material also had a consistently positive relationship with TL! friendly attitudes across all three sites. Finally, magazines or books were a source of TL! information that also had a consistently positive relationship with global attitudes and behavioral intentions for all three samples.

Relationship between Attitudes, Norms, and Intentions to Perform TL! Behaviors

Theory of Reasoned Action: In an effort to explore and predict visitors' intentions to perform TL! supportive behaviors, this research used the Theory of Reasoned Action, which is a widely used and successful theory for predicting human behavior. Briefly, the theory contends that salient attitudes toward the outcome of a behavior and the perceived support and influence of peers regarding the behavior (subjective norms) determine ones intention to behave in a certain way. Intention is the best predictor of actual behavior.

To investigate why some visitors intend to follow TL! recommended practices and others do not, we used composite measures pertaining to attitudes toward specific TL! practices, attitudes toward the influence of norms on these behaviors, and attitudes toward the NPS or BLM, and their relationship with intentions to perform TL! recommended behaviors.

The results suggest that attitudes toward the NPS/BLM were positively correlated with intentions to perform TL! behaviors. In other words, the more positive a person's attitudes toward the managing agency of a site, the more likely they are to intend to perform TL! recommended behaviors. Global measures of attitudes toward TL! principles were also positively correlated with intentions to perform TL! behaviors in all three samples. This means that the more positive a person's attitudes toward TL! principles, the stronger the intention to perform TL! recommended behaviors.

SECTION I – BACKGROUND

Visitor Education and the Promotion of Resource Stewardship

Visitor education is frequently used as part of a multi-pronged strategy to promote resource protection within federally managed public lands such as national parks, forests and wilderness areas (Hendee & Dawson, 2002; Roggenbuck, 1992). Education provides a “light-handed” approach for park and protected area managers to promote positive resource conservation/stewardship behaviors in visitors (Kohl, 2005; Ballantyne & Uzzell, 1999), and deter negative behaviors (Kimmel, 1999; Powell, Kellert, & Ham, 2009), all while enhancing the visitor experience and raising support for larger conservation efforts (Ham & Krumpe, 1996; Powell & Ham, 2008). Examples of educational campaigns include *Tread Lightly!* and the *Leave No Trace Environmental Education and Ethics Program*.

Purpose of the Study

Despite the widespread use of education for promoting positive resource protection behaviors and deterring behaviors that cause resource degradation, the task of effectively educating the recreating public regarding appropriate behaviors can be a difficult task for park and land managers. Challenges include the complexity of human decision-making, non-captive audiences, and limited contact time between park personnel and the public (Leung & Marion, 2000; Orams, 1997).

To assist in overcoming these challenges, this study was undertaken to examine how diffused the TL! message is across 4 wheel drive vehicle enthusiasts and to evaluate the effectiveness of the Tread Lightly (TL!) OHV visitor education program within three federally managed public land sites which have established 4 wheel drive or OHV recreation. This study also provides both a baseline of understanding and the necessary foundation for a larger scale research effort to fully assess the effectiveness of the TL! educational campaign on public lands. Finally, this study aims to inform future management decisions regarding the direction of the TL! program and improve existing education tools so as to reach a broader segment of the recreating public and enhance both enjoyment and resource protection.

Unit Selection Criteria and Study Locations

Three federally managed public lands were selected for inclusion in this research: Big Cypress National Preserve (BICY) in Florida, Canyonlands National Park (CANY) in Utah, and Imperial Sand Dunes Recreation Area (ISDRA) in California. Each of these federally managed sites were selected because:

1. Each site allowed OHV recreation (note: Canyonlands National Park only allows street legal vehicles to operate within the park on designated 4 wheel drive roads).
2. Each site provided a slightly different OHV/4 wheel drive experience.
3. Each site was geographically distinct.

4. The staff/personnel within each site were willing to provide a list of individuals who obtained permits for OHV use within the site or had a partner organization that were willing to provide a list of regular OHV recreational users.

SECTION II - TL!, SITE DESCRIPTIONS AND TL! PROMOTION

TreadLightly!

Tread Lightly!® (TL!) is a national nonprofit organization with a mission to promote responsible outdoor recreation through ethics education and stewardship. The organization was launched in 1985 by the US Forest Service, and became a nonprofit organization in 1990. In 1998, the federal government, including the NPS, formally partnered with TL! to provide education and training on how the public can be environmentally and socially responsible while using motorized and mechanized vehicles in the outdoors. The TL! organization currently offers a wide range of public service and other education material and training courses. The “Tread Lightly” (TL!) off-highway vehicle (OHV) skills and ethics education program is based on five “principles” that support resource stewardship. The five principles have evolved over time and the current TL! principles for OHV use are:

Travel responsibly on designated roads and trails or in permitted areas.

Respect the rights of others including private property owners and all recreational trail users, campers and others to allow them to enjoy their recreational activities undisturbed.

Educate yourself by obtaining travel maps and regulations from public agencies, planning for your trip, taking recreation skills classes, and knowing how to use and operate your equipment safely.

Avoid sensitive areas such as meadows, lakeshores, wetlands and streams. Stay on designated routes.

Do your part by modeling appropriate behavior, leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, and restoring degraded areas.

Each principle is associated with a number of specific recommendations and specific behaviors that mitigate resource damage and promote stewardship (see Appendix I). Ultimately, the mission of the TL! organization is to promote responsible recreation on public lands that will ensure resource stewardship and maintain future access for the public. See www.treadlightly.org for more information.

Big Cypress National Preserve

Site Description

Big Cypress National Preserve (BICY) is located in southern Florida and protects over 720,000 acres that support a variety of wildlife and plant communities including the Florida Panther, one of the most endangered mammals in the United States (Figure 2.1). BICY also protects habitat that is “essential to the health of the neighboring Everglades National Park” (NPS BICY website).

Figure 2.1: Big Cypress National Preserve



The preserve was established by an Act of Congress in 1974 “in order to assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of Big Cypress Watershed in the State of Florida and to provide for the enhancement and public enjoyment thereof...” The Act states that the preserve, as a unit of the National Park Service, is to be managed in a manner that will ensure its “natural and ecological integrity in perpetuity.”

Opportunities for Off Road Vehicle (ORV) Recreation

In Big Cypress National Preserve, ORVs refer to a range of off-road vehicles including all-terrain vehicles (ATVs), all-terrain cycles (ATCs), swamp buggies, street legal-4-wheel drive vehicles, and airboats. Homemade “swamp buggies” provide access to the remote areas of the Preserve and “the trail network within the unit consists of 129 miles of primary trails and 68 miles of secondary trails.” Approximately 1,900-2,000 ORV permits are issued annually.

Figure 2.2: BICY ORV Information

Big Cypress National Preserve

National Park Service
U.S. Department of the Interior

ORV Access

Welcome to Big Cypress National Preserve. Please take the time to read this brochure. Knowing these rules and regulations will assist you in having a safe and enjoyable visit to this National Park Service area.

For the purpose of this document "Off-Road Vehicle" (ORV) or "All-Terrain Vehicle" (ATV) refer to motorized vehicles, including All Terrain Cycle (ATC), swamp buggies, street legal-4-wheel drive vehicles, and airboats. Wheeled vehicles must have drive or motor tires.

FEDERAL REGULATIONS, EXECUTIVE ORDERS, AND NPS POLICIES RELATED TO ORV USE AND THE ORV PLAN

Under existing regulations published in 36 Code of Federal Regulations (CFR) U.S. the superintendent has the authority to limit public use based on the determination that such action is necessary to maintain public safety and health, protect the environmental or scenic values, protect natural or cultural resources, and scientific research, implement management responsibilities, provide equitable allocation and use of facilities, or avoid conflict among visitor use activities.

AREAS CLOSED TO MOTORIZED USE

- A one-mile wide buffer zone parallel to U.S. Highway 41 (Tamiami Trail) is closed to ORV use except on designated trails to cross the zone from designated access points.
- Zone 4 Cape Sable Sparrow Protection Area - see map.
- Loop Unit, Deep Lake Unit, Copeland Prairie area, Zone 6, Addition Lands and all prairie - see map.
- The preserve is closed to ORV use between the hours of 10 p.m. and 5 a.m.
- 11-mile road and the Florida National Scenic Trail are closed to motorized travel, vehicles may cross at designated points.
- Any zone may close temporarily due to environmental and emergency conditions. This is especially true of Zone 6, which may be closed due to hydrologic conditions.
- An annual 60-day seasonal closure to all ORV use throughout the preserve, has generally been starting in June, but the dates may vary.

ACCESS POINTS

Access points are designated on the map on the reverse side of this brochure. Bulletin boards and backcountry permits dispensers are maintained at all access points. Be sure to check the bulletin board for special advisories.

VEHICLE ACCESS TABLE	Vehicle Type					
	Swamp Buggy	All-Terrain Cycle	Street Legal ATC	Airboat	Trail System	Designated Trail
Bear Island	Yes	Yes	Yes	No	Yes	No
Access Point 1 & 1A						
Furness River	Yes	Yes	No	No	Yes	No
Access Points 2, 3, 4, 5, 6, 8, 10						
Corn Dance	Yes	Yes	No	No	Yes	No
Access Point 8 & 9						
Swampy Zone 2 & 3	Yes	Yes	No	No	Yes	No
Access Point 11 & 13						
Swampy Zone 6	No	No	No	Yes	Yes	No
Access Point 14 and 15						
CLOSED AREAS						
Loop Unit	No	No	No	No	No	No
Highway 41 Buffer	No	No	No	No	No	No
Cape Sable Sparrow Habitat	No	No	No	No	No	No
Copeland Prairie	No	No	No	No	No	No
All Prairie	No	No	No	No	No	No
Swampy Zone 1	No	No	No	No	No	No
Deep Lake Unit	No	No	No	No	No	No
Addition Lands (Wild Furrow [None])	No	No	No	No	No	No

PERMITS

The following permits are required for ORV use within the preserve:

- Vehicle Inspection Permit (free at the visitor center upon vehicle meeting specifications)
- BICY ORV Operator's License (free after taking orientation course at the visitor center) must possess valid state driver's license or learner's permit (and accompanied by a licensed adult, 18 years or older)
- ORV Permit (\$50.00 at the visitor center)
- Backcountry Permit (free at trailhead, Required for all backcountry activities)

Further information about the permitting process is available at the visitor center or on the website, www.cnpa.gov/bicy.

Owners of private property within the preserve boundaries can be issued a free special use permit that allows their reasonable access to and from their private property. A property owner who holds a recreational permit does not need a special use permit unless their property is in a closed area and for they want access during the 60-day closure. Recreational use of ORVs by these private property owners, other than directly to and from their property, requires the same permit as non-property owners. All vehicles for access need to be inspected.

RULES AND REGULATIONS YOU ARE REQUIRED TO KNOW ALL RULES AND REGULATIONS.

- Vehicle must meet specifications, permit requirements and be of the proper type for each unit.
- Vehicles must use designated access points and follow trail requirements in each zone.
- Off-road vehicles are prohibited from operating in preserve campgrounds, with the exception of Bear Island and Bear's Lake, for the purpose of accessing backcountry units.
- ATVs are limited to the number of rides intended by manufacturer. Safety belts are to be worn on vehicles equipped with them.
- Open containers of alcoholic beverages are prohibited on all ORVs.
- Speed limits -15 miles per hour for wheeled vehicles, 30 miles per hour for airboats.
- Any device used to push aside, shear off, or otherwise damage vegetation is prohibited. Tire chains, bar grips and other devices affixed to tires are also prohibited.
- Vehicles parked at trailheads should not impede traffic flow on the road or access to the ORV trail.
- Airboats may travel on designated trails 90' from either side of trail markers when terrain permits.

CAMPING, HUNTING AND OTHER REGULATIONS

Fires may be burned during high fire danger. Check bulletin boards for special regulations or access requirements.

Individuals occupying a site may bring camping and/or hunting equipment onto the preserve after 6 a.m. one day before the opening of each of the following hunting seasons and must remove such equipment from the preserve before 6 p.m. one day after each season ends (applies to archery/bow-tie loading, general gun and spring turkey seasons). Individuals who leave equipment unattended during the allowable time period must know identification (name, address, phone number), clearly visible on the tree stand, tent, or similar equipment. Equipment must be removed between seasons.

In Zone 4 airboat users must camp in designated campsites only (1-17), backcountry camping is allowed in other areas of Zone 4 (except the swampland sparrow closure area) when access is gained by float or non-motorized vessel, and the campsites are located at least 1/2 mile from the Loop Road and 1/4 mile from any designated campsite or airboat trail, no personal property can be left in the backcountry (tents, grills, coolboxes, tables, bedding, etc.) anywhere in Zone 4 when the user is not actively camping and staying overnight at the campsites.

All firearms and hunting weapons are allowed only during hunting seasons with the appropriate licenses. Target shooting is prohibited.

Weapons on ORVs must be unloaded and cased or stored in a manner that will prevent their ready use.

The shooting, hunting with or possession of loaded weapons within campgrounds is prohibited.

Those hunting or accompanying a hunter during muzzleloading and general gun season must wear at least 500 square inches of fluorescent orange material above the waistline as an outer garment.

Recreational frogging is allowed throughout the year. Frogs may only be taken by the use of gigs. Artificial lights may only be used for frogging as spotlighting is prohibited for other species.

Dogs are not permitted in the backcountry. Bird dogs and waterfowl retrievers are allowed for hunting purposes during ice inspector seasons.

Generators are prohibited in the backcountry.

OTHER ISSUES

- The brochure does not address any management issues in the Addition Lands. The Addition Lands will remain closed to recreational ORV use pending the completion of a General Management Plan.
- The preserve's enabling legislation provides for the usual and customary use and occupancy of the preserve by the Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida.
- A person convicted of violating a provision of the regulations within the preserve can be punished by a fine or imprisonment, or both as provided by law and can be adjudged to pay all costs of the proceedings. ORV operators who do not comply with preserve rules or permit requirements can also have their permits suspended or revoked, can be required to pay restitution for injury caused to the resources, can be subject to seizure of their vehicle and other property used during the offense, and can be banned from applying for an ORV permit for a specified period.

CONTACT INFORMATION

Questions can be directed to the Chief Ranger's Office at 239-695-1117. Further information about ORV permits, vehicle inspections and ORV operator's orientation courses should be directed to the visitor center at 239-695-1205. Detailed information can also be found on our website at www.cnpa.gov/bicy. Accidents must be reported within 24 hours to the National Park Service.

IN CASE OF EMERGENCY WITHIN THE PRESERVE: 1-800-788-0511

ORV use in BICY is often coupled with other activities such as hunting, fishing, camping, wildlife observation, transportation to private property, and other traditional nature based activities, which are all authorized within the Preserve. ORV activities such as racing, mudding, sport riding, motocross riding, and competitive events, are prohibited.

ORV Management

The Off Road Vehicle Management Plan was prepared in accordance with the 1995 settlement agreement negotiated between the NPS, several other federal agencies, and the Florida Biodiversity Project. The NPS continues to work to maintain the public's ability to use ORVs within the Preserve while still protecting the resources and meeting the recreational needs of other visitors. The goal of the current management plan is to provide a sustainable designated trail system that minimizes environmental and social impacts to the Preserve by eliminating dispersed ORV use. "Staying on the designated trails will ensure the continuation of ORV access into the backcountry for generations to come" (NPS BICY website).

There are a total of 2,000 ORV permits available annually. Each individual ORV requires an ORV permit and these are available through a lottery system. This ensures that each individual has an equal chance of receiving a permit. If all of the 2,000 annual permits are not bought through the lottery system, then lottery winners are allowed to purchase more than one ORV permit. If after this process there are residual permits available, then they may be purchased at the Headquarters on a first come, first serve basis. Requirements for an ORV permit include completion of an orientation class, inspection of the ORV, and a \$50.00 fee. Permit holders receive a sticker, which is valid for one year from Jan. to Jan. (Figure 2.4). Funds generated from the OHV permits are used to manage recreational ORV use in BICY.

In addition, a backcountry permit is necessary when accessing BICY and is available from dispensers at access points, check stations, the Visitor Center at Oasis, and the Ranger staff (Figure 2.4). A copy of the permit must be left in the permit receptacle at the specific access point used to enter the backcountry. Instructions for filling out the permit are posted on bulletin boards at each access point.

Figure 2.3: ORV Permit Guidelines

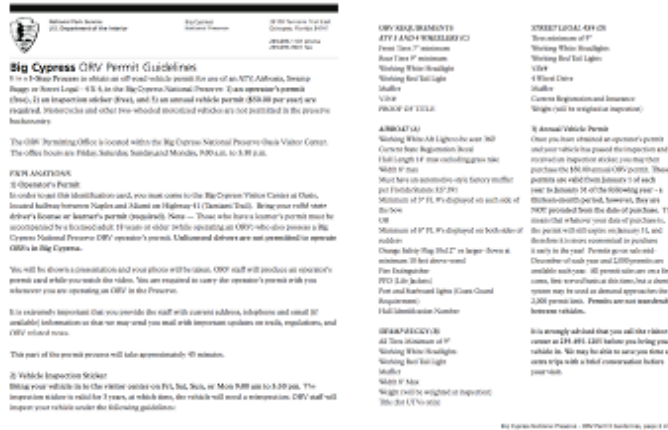


Figure 2.4: Backcountry permit and ORV permits



Managing ORV recreation is a complicated task that seeks to balance visitor access with protection of fragile, rare, and sensitive ecosystems and species. The process for managing ORV recreation in BICY has involved a range of groups including the public, the ORV Advisory Committee (ORVAC), and the NPS. The ORV Advisory Committee (ORVAC) is comprised of members from various stakeholder groups including ORV users, landowners, academia, and government officials. The ORVAC was established to resolve issues and make recommendations regarding the management of ORVs within the Preserve as well as build positive relationships between stakeholder groups. In addition, the ORVAC was specifically involved in the development of this research project (see Powell and Vagias, 2010 for more information).

ORV Driver Education

The NPS feels that it is critical that all Off Road Vehicle (ORV) operators understand the intent, purpose, and requirements of the ORV management program. Only with knowledge of the rules and regulations can ORV drivers appreciate and understand the potential impacts of ORV use and the consequences of misuse. All permitted ORV drivers are required to take an orientation class which reviews BICY regulations and TL! and LNT principles.

A free ORV operator’s ID card is given to those individuals who complete the ORV orientation/education class. The intent of this class is to inform ORV operators of their responsibilities as required under the new BICY ORV Management Plan, including regulations and restrictions (see Figures 2.2, 2.3, 2.5 and 2.6).

Information that is needed to operate an ORV within BICY is distributed to visitors through the following NPS media:

- Maps of ORV areas indicating access points open and closed
- Posting information on the bulletin boards at each access point
- An internet page specifically for ORV users: www.nps.gov/bicy “Current Hunt/ORV Regs” and/or “In Depth” then click on “ORV Use”

Figure 2.5: BICY ORV Area Maps

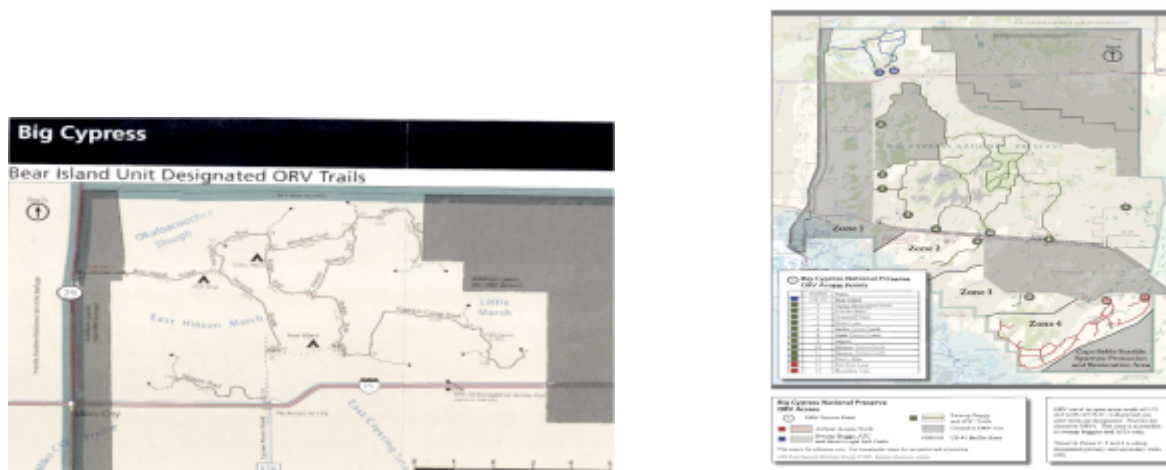


Figure 2.6: ORV Rules and Regulations

The freshwaters of the Big Cypress Swamp, essential to the health of the neighboring Everglades, support the rich marine estuaries along Florida's southwest coast. Protecting over 720,000 acres of this vast swamp, Big Cypress National Preserve contains a mixture of tropical and temperate plant communities that are home to a diversity of wildlife, including the elusive Florida Panther.

Remote areas of the Preserve are challenging to reach by foot; generations have explored these areas by homemade airboats or swamp buggies. Today, people continue to enjoy this traditional recreational activity.

The following off-road vehicles (ORVs) are allowed on the trails in the Bear Island Unit: ATVs, swamp buggies and street legal 4x4 vehicles.

ORV use within Bear Island is allowed on designated trails only. These trails are marked with Carsonite posts that have green and/or red tape on them. There are several marked intersections; refer to map. All other trails within the unit are closed to ORV use. Bicycles are allowed only on open ORV trails. Hiking is allowed anywhere within the unit.

ORV Rules

ORV use is prohibited between 10 p.m. and 5 a.m.

ORV speed limit is 15 mph.

Ensure that your vehicle meets the applicable requirements.

ORV permit sticker is required.

ORV inspection sticker is required.

An ORV operator's permit (with photo), a valid driver's license, or learner's permit, is required of all persons operating an ORV. If the operator has a learner's permit, s/he must be accompanied by or within 100 feet of a licensed/permitted adult 18 years or older.

Riding double on ATVs is prohibited, unless the vehicle was manufactured for such purposes.

Riding in, or on, any trailer being towed by an ORV is prohibited.

Consumption of alcohol or possession of an open container of alcohol in or on a motor vehicle, including off-road vehicles, is prohibited.

Tread Lightly

Various trails within the unit may be difficult for some vehicles to traverse. Know the limitations of your vehicle and your off-roading skills. Stay on designated trails at all times.

Respect the rights of others including private property owners, all recreational trail users, campers and others. Allow them to enjoy their recreational activities undisturbed.

Do your part by leaving the area better than you found it by properly disposing of waste, minimizing the use of fire and avoiding the spread of invasive species.

Things to Remember

A backcountry permit is required for all modes of backcountry travel. Permits may be obtained at access points or at the Hunter Check Station.

Bicycle riding within the Bear Island Unit, and other areas of the Preserve, is allowed along designated ORV trail routes only.

Camping is allowed only in designated campgrounds within the Bear Island Unit. These include Bear Island Campground (40 sites), Pink Jeep Campground (9 sites) and Gator Head Campground (9 sites).

Fires are permitted only in campgrounds and must be completely extinguished prior to the user leaving the campsite.

Fires may be banned during high fire danger. Check bulletin boards for postings regarding special regulations.

Dogs are allowed on leash (6 foot maximum) only in Bear Island Campground. Within the backcountry the possession of dogs (other than bird dogs and waterfowl retrievers for hunting purposes during appropriate seasons) is prohibited.

Please know and follow all Big Cypress National Preserve and Florida State hunting rules and regulations.

Within the Bear Island Unit, individuals occupying a site may bring camping and hunting equipment onto the Preserve after 8 a.m. one day prior to the opening of Archery/Muzzle Loading Season, General Gun Season, and Spring Turkey Season. All equipment must be removed from area before 6 p.m. one day after each season ends.

Possession of a gun is allowed only during periods when hunting with a gun is permitted; the individual is licensed to hunt, possesses all permits for that season, the weapon is appropriate for the specific season and the individual is engaged in or traveling to or from the hunt.

Hunting a campground the camp temporary in a marsh


Concealed lands.

Emergency
National 1-800-780-4NPS on

For more
Big Cypress
www.nps.

Hunting &
www.myc

Responsible
www.trea



The maps provide information on designated trails, campgrounds, specific areas within Big Cypress, ORV rules, general rules and regulations of Big Cypress, emergency numbers, and a small section on TL! recommendations that focus on respecting the rights of others and doing your part to leave the Preserve better than you found it (Figures 2.5 and 2.6).

Figure 2.7: Posting of information at access points provides visitors with another source of valuable information while in Big Cypress



BICY's specific ORV rules include:

- Vehicles must meet specifications and permit requirements and be of the proper type.
- Driver's License - All operators will have to possess a valid state driver's license in order to obtain an ORV Operator's ID card.
- Vehicles must use designated access points and follow the trail requirements.
- Off-road vehicles are prohibited from operating in Preserve campgrounds, with the exception of Bear Island and Burn's Lake for the purpose of accessing backcountry travel and return.
- Vehicles parked at trailheads should not impede traffic flow or trail access.
- An Operator's ID card needs to be carried at all times.
- Riding double on ATC is prohibited.
- Open containers of alcoholic beverages are prohibited on all ORVs.
- Speed limits are 15 mph for wheeled vehicles and 30 mph for airboats.
- Any device used to push aside, shear off, or damage vegetation is prohibited.
- Weapons on ORVs must be unloaded and cased or stored in a manner that will prevent their ready use.
- After orientation class is completed and vehicle has been inspected, the recreational ORV Permit can be purchased for \$50.00. The permit is valid for one year and each year the color of the permit will change.

Figure 2.8: Throughout BICY, signage is used to remind visitors of the location of designated ORV areas



Figure 2.9: BICY ORV website with TL! link



In addition, the BICY ORV website provides a link to the TL! website where visitors can obtain more information on the program and ethics (Figure 2.9). Other recommendations provided by BICY that align with TL! and Leave No Trace recommended practices include:

- Plan ahead and prepare: check weather forecast, obtain a map of the area and carry a compass.
- Travel and camp on durable surfaces.
- Minimize campfire impacts: fires may be banned during high fire danger.
- Safety on the trails: travel with a group of two or more vehicles.
- Responsible camping: Do not cut living trees use only fallen timber; when possible use existing campsites.
- Dispose of waste properly: bury human waste at least six inches below the surface; burn paper or bring back with your garbage.
- Be considerate of other visitors: Generators are not allowed in backcountry campsites. Front-country campers must turn generators off at 10:00p.m.
- Vandalism: acts of vandalism can result in closure of the preserve.

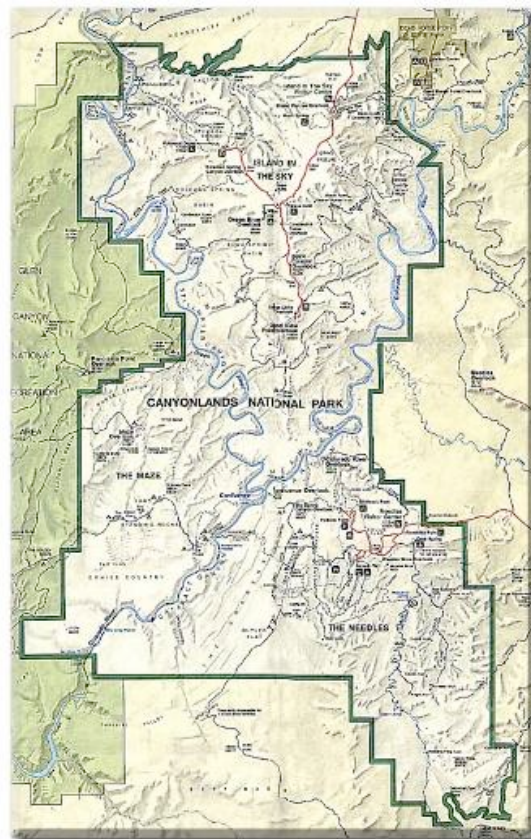
Canyonlands National Park

Site Description

Canyonlands National Park (CANY) encompasses 337,598 acres of canyons, mesas and buttes in southwest Utah (Figure 2.10). The park is divided into four districts by the Green and Colorado rivers: the Island in the Sky, the Needles, the Maze and the rivers themselves. The Island in the Sky is most accessible to visitors and includes a scenic drive, a variety of hikes, and a 4 wheel drive road. The Needles unit provides a backcountry experience and the Maze is a remote area. For a cultural experience, visitors can go to Horseshoe Canyon where Native American rock art panels are displayed. There are no roads within the park that link the four districts.

On September 12, 1964, President Lyndon B. Johnson signed Public Law 88-590 establishing Canyonlands National Park "in order to preserve an area in the State of Utah possessing superlative scenic, scientific, and archaeological features for the inspiration, benefit and use of the public...". Originally, Canyonlands consisted of 257,640 acres, but was expanded to its present size in 1971.

Figure 2.10: Canyonlands National Park Map



Management of Street Legal 4 Wheel Drive Vehicles and Motor Cycle Recreation in CANY

CANY only allows street legal 4 wheel drive vehicles and motor cycles on designated roads. ATVs and other non-street legal vehicles are not permitted. There are hundreds of miles of 4 wheel drive roads in Canyonlands that provide access to various campsites, trailheads and viewpoints in the park's backcountry. These roads range in difficulty from intermediate, like the White Rim Trail in the Island in the Sky District, to extremely technical routes like Elephant Hill in the Needles and the road to the Land of Standing Rocks in the Maze (NPS CANY website).

All vehicles must remain on established roads. High-clearance, 4 wheel drive vehicles or enduro-style motorcycles and some off-road driving experience are required for most backcountry roads. Other vehicles (e.g. low-clearance all-wheel-drive or high-clearance 2WD vehicles) usually have difficulty negotiating the rough slickrock, loose rocks, deep sand and steep switchbacks found throughout the park (NPS CANY website).

For all overnight trips in the backcountry, permits are required. Permits are issued seven days a week at district visitor centers on a first come, first serve basis. Walk-in permits are only available the day before or the day of a trip. Permits, excluding day use, can be issued for up to fourteen consecutive nights. Visitors using the designated vehicle camps may stay a maximum of three consecutive nights at a camping area before having to relocate.

Backcountry Driver (4 wheel drive and motorcycle driver) Education

Maps, which can be found on the website, provide useful information to visitors (Figure 2.11). On the back of the maps information is provided regarding the area, safety, hiking trails and 4 wheel drive roads, and ways to protect the park (Figure 2.12).

Figure 2.11: CANY Backcountry 4 Wheel Drive Roads and Trail Maps for Each District

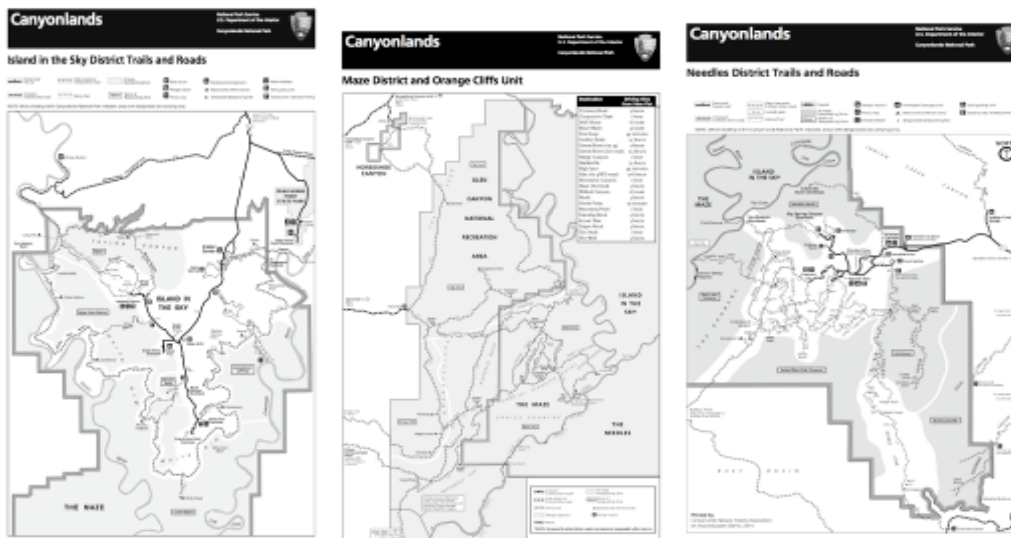




Figure 2.12: CANY Backcountry Regulations and Guidelines

<p>Introduction</p> <p>For More Information Canyonlands Backcountry Permit 2024-25 Season Permit Fee: \$20 2025-26 Season Permit Fee: \$25 2026-27 Season Permit Fee: \$30 www.blm.gov/canycn</p>	<p>The Maze is the least accessible and least visited district of Canyonlands. Due to the dramatic topography and the difficulty of roads and trails, travel to the Maze requires some time, as well as a greater degree of self-sufficiency. Routes do not open from the other three districts in the Maze, and the area can easily become a one-way trip.</p> <p>The Orange Cliff Unit of Glen Canyon National Recreation Area (Mesa Arch) is located in western boundary and is administered under the same backcountry management plan and</p>	<p>regulation system. Regulations are the same for the Maze and Orange Cliffs, though they differ on the west of Glen Canyon.</p> <p>The Harts Flat Ranger Station is two hours from Glen Canyon. It is on Loop 63, near Highway 89 south of the river. A left-hand turn just beyond the Colville Indian reservation will take you along a two-wheel drive dirt road as far as 17.5 miles south to the ranger station. In addition, a two-wheel drive road leads north from Loop 63 to Highway 89 near Harts. The station is open from 8 a.m. to 5 p.m. daily.</p>
<p>Hiking Trails</p> <p>Backcountry Reservations Canyonlands Backcountry Permit 2024-25 Season Permit Fee: \$20 2025-26 Season Permit Fee: \$25 2026-27 Season Permit Fee: \$30 www.blm.gov/canycn</p>	<p>Trails in the Maze are primitive and lead into canyons and to various viewpoints. Due to the nature and depth of Maze canyons, access to them is difficult. The Maze Checkbook Trail and other routes in the district require basic climbing techniques to enter or require sections of steep descent and pull-offs. A top-knot length of rope is often essential for raising or lowering parties in difficult spots. Many routes may require horses with a host of single mountaineers. Routes into the canyons are unimproved from time to time to carry hikers, but routes through narrow canyons are often unimproved. Hikers of the canyons have to be and are difficult to do so without a topographic map.</p> <p>Most routes begin at trailheads along the paved or gravel roads. Visitors with two-wheel-drive vehicles may park at the North Point Road, approximately 10 miles southeast of the Harts Flat Ranger Station, and drive to the Maze. The route to the North Point Canyon, 10 miles from the North Point Road, may also be able to negotiate the mile road to park at the top of the Flat Top which leads here to the Land of Standing Rocks.</p>	
<p>Four-Wheel-Drive Roads</p> <p>Protect Your Park</p> <ul style="list-style-type: none"> • Pets are not allowed on hiking trails or on four-wheel-drive roads, even in a vehicle. • Do not drive off-road, damage or block other hikers' views. Do not collect artifacts. • All vehicles and tractors must stay on designated roads. • ATVs are not permitted. • Proper off-road use is essential for staying on these roads. • Outlets are required for all overnight backcountry trips. • Road fees are prohibited. <p><small>Photo: Glen Canyon National Recreation Area/USFWS</small></p>	<p>Four-wheel-drive roads in the Maze are unimproved at Harts. Present considerable risk of vehicle damage, and should not be attempted by inexperienced drivers. A high-clearance, four-wheel-drive vehicle is required for all Maze backcountry roads. ATVs are not permitted. The area is extremely dry and in the Maze in the Flat Top, which requires ropes of car that are extremely slippery when wet. The Flat Top is often closed during winter.</p> <p>The road between Harts Flat camp and the Land of Standing Rocks in the west in the Maze. Four-wheel-drive vehicles should be prepared to make back road or vehicle repairs and should carry the following items at least one full-size spare tire, extra gas, extra water, a shovel, a high air pump, and from October to April, chains for all four tires.</p>	
<p>Protect Yourself</p> <ul style="list-style-type: none"> • Enter at least one gallon of water each day. • Always carry a top map, accurate clothing, and a flashlight. • Remain in one place if you become lost or separated from a group. • Flash floods can occur without warning. Never cross a canyon that is flooding. • During a lightning storm, avoid tall trees, cliff edges, and high ridges. Remain in a great vehicle if possible. • Be careful near cliff edges, especially when rock outcrops are wet or icy. <p><small>Photo: Glen Canyon National Recreation Area/USFWS</small></p>	<p>All overnight trips require a permit, which may be reserved in advance. Backcountry use is at large risk. There are several national systems in the canyon of the Maze. Enter at the Harts Flat Ranger Station for more information.</p> <p>All overnight trips require a permit, which may be reserved in advance. Backcountry use is at large risk. There are several national systems in the canyon of the Maze. Enter at the Harts Flat Ranger Station for more information.</p>	<p>REFERENCE YOUR ADDRESS</p>

Permits also provide information to remind users of the regulations and safety procedures while in the park. The following regulations appear on all backcountry permits issued by Canyonlands:

- Permits are required for all overnight trips in the backcountry.
- Properly dispose of human waste by using vault toilets, portable toilets, or digging a “cat hole” 300 feet away from water sources and campsites.
- Only charcoal fires are allowed at designated vehicle campsites and visitors must remove unburned charcoal and fire debris.
- Pets, fireworks and littering are prohibited. Pack out all garbage.
- Discharging firearms is prohibited.
- Disturbing, entering or camping within 300 feet of an archeological or historical site is prohibited. Collecting artifacts is prohibited.
- At-large camping is prohibited within one mile of a road or outside the area.
- Camping within 300 feet, or use of soap within 100 feet, of a water source is prohibited.
- Camping outside the established campsite boundary at a campsite is prohibited.
- Disturbing or collecting natural features is prohibited.
- Hunting, feeding or disturbing wildlife is prohibited.

On the Canyonlands website, there is a link to a video, *This Fragile Desert*, that can be downloaded by visitors which illustrates ways to reduce impacts of hiking, biking, or driving while in the park.

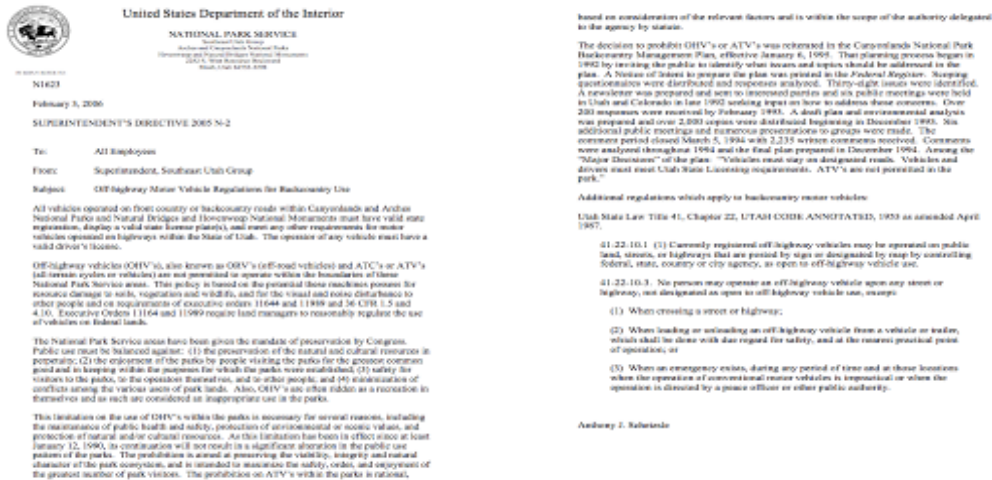
The video provides a useful orientation to the park, while also demonstrating several TL! principles (Figure 2.13).

Figure 2.13: CANY Website and Link to 'This Fragile Desert' video



In 2006, a letter from the Superintendent of the Southeast Utah group was issued regarding regulations for OHVs and reasons why OHVs were not permitted in CANY (Figure 2.14).

Figure 2.14: Superintendents Letter



TL! Educational Efforts at CANY

There are currently no TL! educational efforts on the website for Canyonlands and no TL! brochures or educational programs at the park. A major reasoning behind this lack of support for TL! is that Canyonland does not allow OHV recreation.

Imperial Sand Dunes Recreation Area

Site Description

Located in the southeast corner of California, the Imperial Sand Dunes Recreation Area (ISDRA) is managed by the Bureau of Land Management and is the largest mass of sand dunes in the state (Figure 2.15). Formed by windblown sands, the dune system extends for more than 40 miles in a band averaging 5 miles wide (BLM, 2010). Located three hours from many metropolitan areas including Los Angeles, San Diego, and Phoenix, ISDRA is the most heavily visited OHV recreation area in CA and receives over 1.4 million visitors annually (BLM, 2010). Off-highway vehicle (OHV) enthusiasts generally travel to the dunes for the fabulous scenery and opportunities to drive challenging terrain. Non-OHV recreationists come to ISDRA for camping, hiking, horseback riding, viewing wildlife, photography, sightseeing, etc (BLM, 2010).

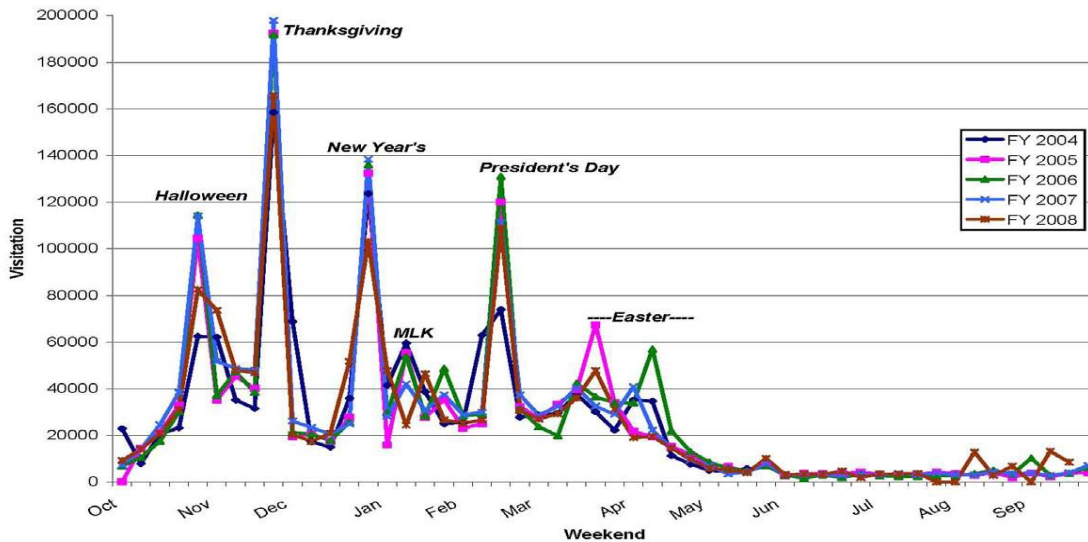
Figure 2.15: Map of ISDRA



Opportunities for OHV Recreation

The dune system consists of three areas. The northern area is known as Mammoth Wash, which is more remote and less visited than the southern area. Established in 1994, North Algodones Dunes Wilderness Area is located south of Mammoth Wash. As a designated wilderness area, the area is managed to provide solitude and allows only non-mechanized travel such as hiking or horseback travel. The most southern area is just south of State Highway 78 and is the most heavily used dune area by OHV enthusiasts. Visitation to ISDRA is highest from Oct.- May with peaks on major holidays (Figure 2.16). Vehicles used in ISDRA include sand rails, dune buggies, all-terrain vehicles, motorcycles, 4WD pickups, 2WD pickups, sport utility vehicles, and custom built OHVs (BLM, 2010).

Figure 2.16: ISDRA Visitation from 2004-2008 (BLM 2010, 3-115)



OHV Management

In 2008, BLM announced the intention to revise the current recreation area management plan (RAMP). The development of a management plan for ISDRA is currently undergoing public review and comments. See

<http://www.blm.gov/ca/st/en/fo/elcentro/recreation/ohvs/isdra/dunesinfo/docs/isdramp.html> for the draft environmental impact statement and the latest information on the process.

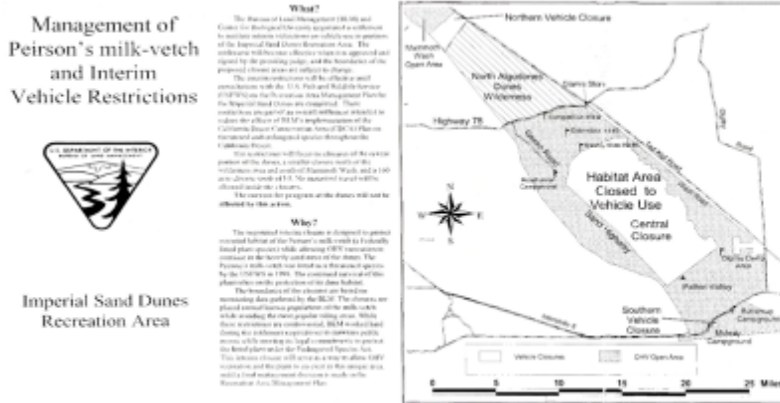
Currently, one permit is needed per primary vehicle, which is any street legal vehicle used for transportation to the recreation site, and the visitor must have it at all times. You can obtain a permit once you arrive at ISDRA, but it proves more cost-effective to purchase it in advance. Permits are available for weekly and seasonal use. Off-site (outside Imperial Sand Dunes fee area) permits can be obtained over the phone, the website, or through various vendors throughout CA and AZ. On-site permits can be purchased at fee collection stations and various dune-area vendors (Table 2.1) The Imperial Sand Dunes Recreation Fee Area covers the entire ISDRA and its 1 mile planning area boundary. This includes, but is not limited to, Buttercup, Gecko Rd, Glamis, Gordons Well/Dunebuggy Flats, Mammoth Wash, Ogilby, Osborne, along both sides of the Coachella Canal and Ted Kipf Rd (BLM 2010).

Table 2.1: 2010 ISDRA Fee System (ISDRA Website)

Off-site	Season permit	\$90 - valid from October 1 to September 30
	Weekly permit	\$25 - valid for seven consecutive days upon entry.
On-site	Season permit	\$120 - valid from October 1 to September 30
	Weekly permit	\$ 40 - valid for seven consecutive days upon entry.

A major portion of ISDRA’s management by BLM focuses on plant and wildlife conservation, especially of endangered and threatened species. Populations of Pierson’s milk-vetch, a federally listed endangered plant species, prompted BLM to initiate plans to close areas to OHV use in an effort to protect essential habitat for the species (Figure 2.18).

Figure 2.18: BLM’s management of the Endangered Peirson’s Milk-Vetch



OHV Driver Education:

Maps

A variety of ISDRA maps are available on the website and are also distributed on site. The maps provide useful information on where ranger stations and campgrounds are located as well as the boundaries of the fee and wilderness areas. Also included on the maps are California OHV laws, ISDRA rules and regulations, information about protecting the desert tortoise, and a small portion on the TL! principles (Figure 2.19).

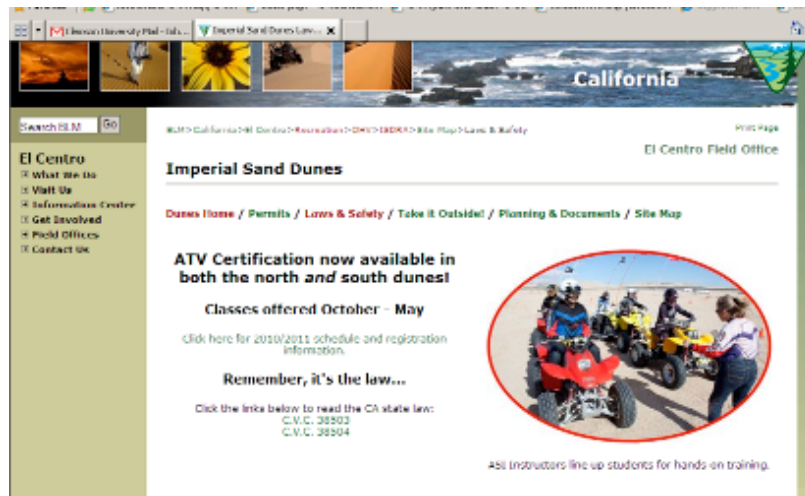
Figure 2.19: ISDRA Maps and Information



Website

To promote OHV driver safety and awareness, there is information on the website about how to obtain ATV certification at the Dunes (Figure 2.20).

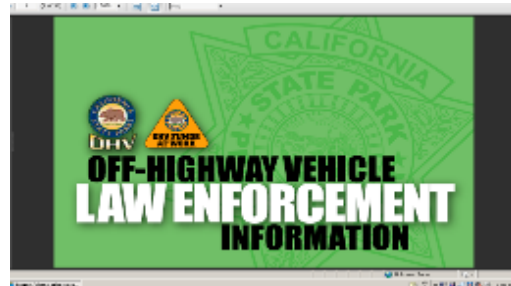
Figure 2.20: ISDRA Website



California State OHV Regulations

On the website, there are also links that provide visitors information on Imperial Sand Dunes Regulations, California OHV Regulations, OHV Law Enforcement Info Booklet, California Vehicle Code, and the AZ Off-Highway Vehicle Program (Figure 2.21).

Figure 2.21: California OHV Laws and Regulations Brochure



Child Education: Take it Outside!

An educational program for young OHV users is promoted on the website as well as by BLM and the American Sand Association (ASA). On-site, "Take it Outside!" activity cards and other materials are distributed that promote responsible OHV use (Figure 2.22).

Figure 2.22: Take It Outside



Junior Ranger Program

Junior Ranger is a national education program that is supported by several agencies in the Department of the Interior, including the NPS and BLM. In ISDRA, BLM provides educational booklets as part of the Junior Ranger program. Kids can earn badges by completing a Junior Ranger booklet that promotes learning about the park and its resources, participating in BLM sponsored-activities, and speaking to BLM rangers.

Education Partners

American Sand Association

American Sand Association (ASA), a nonprofit organization whose primary objective is to “unite, inform, and mobilize the sand duning community to protect their right to ride.” One of their main objectives is to promote responsible OHV use through education so that ISDRA and other public lands will remain open to OHV use in the future. ASA has partnered with BLM and TL! to establish educational and safety programs such as the “Safety Bug” program and the Checkered Flag program (Figure 2.23 and 2.24).

Figure 2.23: ASA educational brochures that promote OHV safety and knowledge of regulations in the sand dunes



Figure 2.24: Safety flags are required on all vehicles in the ISDRA, including motorcycles. The ASA’s “Safety Bug” program strongly promotes the use and importance of the flags.



Figure 2.25: The “Dune Smart” booklet and program target younger OHV users and promote responsible driving, the use of safety equipment, and the respect of regulations.



Figure 2.26: ASA also produced a DVD on safe dune-riding which also promotes TL! principles



ORBA (Off-Road Business Association)

ORBA is a nonprofit trade association composed of off-road related businesses united to promote common goals that support the prosperity and growth of the off-road industry. ORBA partners with ISDRA, ASA, and other organizations to promote responsible OHV use and continued access to public lands (Figure 2.27).

Figure 2.27: ORBA Brochure



Imperial County Sheriff’s Office

Imperial County Sheriff’s office has also partnered with ISDRA and has developed a “Camp Smart” program, which provides information to visitors to Imperial County on the laws and requirements for ATV and OHV use, a safety training course, camping laws, placement of stickers, and map/location information for the sheriff’s office and medical centers (Figure 2.28).

Figure 2.28: Imperial County Sheriff’s Office Camp Smart and Permit Compliance Brochures



United Desert Gateway

“The United Desert Gateway, nonprofit public benefit corporation comprised of the Brawley, El Centro and Yuma Chambers of Commerce, works hand-in-hand through an Assistance Agreement with the Department of Interior, Bureau of Land Management, the American Sand Association, and other partners to enhance the recreational experience at the Imperial Sand Dunes Recreation Area and other BLM managed lands in the area” (United Desert Gateway website). The

organization is particularly interested in promoting responsible OHV use to ensure “desert recreation remains open for your off-highway vehicle recreation experience.” The United Desert Gateway develops and distributes information brochures and regularly sponsors dune clean ups and other stewardship activities in collaboration with their partner organizations. Visit <http://www.uniteddesertgateway.org/index.php> for more information.

Specific TL! educational efforts on site

The BLM, ASA, and other organizations regularly promote the TL! program and the principles on their websites, brochures, and maps (see figures 2.29-2.31 for examples) and through trade shows. TL! brochures are available for both adult and children. Both focus on reiterating the 5 primary TL! principles and the specific behaviors and techniques that will support these ethics.

Figure 2.29: El Centro Field Office’s ISDRA map



Figure 2.30 : ISDRA Website



Figure 2.31: TL! Kids Brochure promoting TL! principles



Young Rider Activity Cards

To accompany the images of TL! on the website, there are actual cards that are distributed at the ISDRA site for young OHV riders. As seen below, the cards reference outdoor ethics and OHV safety including respect for plants, wildlife, and sensitive habitats.

Figure 2.32: TL! Young Rider Cards





TL!

Through their partnering organizations, TL! information and media are regularly distributed to OHV enthusiasts. These efforts occur onsite as well as offsite at conferences and trade shows across CA and AZ (Figure 2.33).

Figure 2.33: TL! Brochure with Principles for Sand Duning



SECTION III – CONCEPTUAL FOUNDATION

Why Theory?

Using theory to inform research is helpful by providing a road map for understanding complex phenomenon of interest, in this case human behavior and how information is disseminated and adopted across populations. Additionally, the use of appropriate theory leads to asking the correct types and forms of questions (Henderson, Preseley, & Bialeschki, 2004). The theoretical basis of this study was drawn from two social-psychological and communication theories, Diffusion of Innovations Theory (Rogers, 2003) and the Theory of Reasoned Action (Ajzen & Fishbein, 1980).

Theoretical Framework for Understanding Adoption of TL!: Diffusion of Innovations Theory

Diffusion of Innovations (DIT) is a communication theory that examines how an idea or technology becomes accepted into society and the rate at which they are accepted (Rogers, 2003). Diffusion is defined as “the process in which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 2003, p. 5). This theory suggests that new ideas are not immediately adopted into society, they take time and may succeed or fail for any number of reasons; DIT critically examines the antecedents of this acceptance. Rogers (2003) posits there are five explanatory factors that, taken together, account for the rate of adoption: (1) the individual innovation-decision process, (2) perceived attributes of the innovation, (3) communication channels, (4) nature of the social system, and (5) the extent of change agents’ promotion efforts.

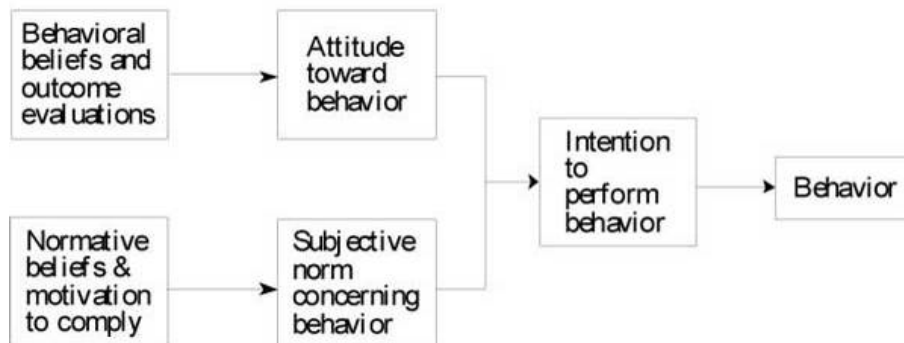
The individual innovation-decision (1) refers to the internal process when an individual is first made aware of an innovation to when they accept or reject the innovation. During this stage Rogers suggest there are five components of the process; *knowledge* – when an individual becomes AWARE and then KNOWLEDGEABLE of an innovation, *persuasion* – when an individual forms a favorable/unfavorable ATTITUDE regarding the innovation, *decision* – when an individual INTENDS to adopt or reject the innovation, *implementation* – when an individual USES the innovation, and *confirmation* – when an individual REINFORCES the decision about the innovation (Rogers, 2003, pp. 169-181). Perceived attributes (2) refer to the characteristics of the innovation as they are perceived by individuals considering their adoption. Communication channels (3) include mass media such as magazines or television advertising, interpersonal channels such as word-of-mouth, targeted educational initiatives including printed brochures, video presentations, discussions with personnel, and/or interpretation efforts. A social system (4) “is a set of interrelated units that are engaged in joint problem solving to accomplish a common goal” (Rogers, 2003, p. 37). Finally, the extent of the ‘change agents’ promotional efforts (5) refer to the communication pathways used by individuals who “influence the innovation-decision in a direction deemed desirable by the change agency” (Rogers, 2003, p.27) In this research, TL! and the land management agencies are seen as change agents and possibly influential opinion leaders.

In this study, we investigated the individual innovation-decision process (1) by exploring visitors' awareness, knowledge, attitudes, and intentions regarding TL! recommended practices. We also examined the perceived characteristics of the innovation (2), which in this case is the TL! message. In addition we explored the communication channels (3) utilized by the 'change agents' and their effectiveness in promoting the LNT message (5).

Theoretical Framework for Understanding Attitudes and Relationship to TL! Behaviors: Theory of Reasoned Action

The Theory of Reasoned Action (TRA) is a social-psychological theory that seeks to explain human behavior and the determinants of that behavior (Ajzen & Fishbein, 1980). Specifically the TRA is a theory "designed to predict and explain human behavior in specific contexts" (Ajzen, 1991, p. 181). It is because of this function that the TRA is so well suited for use in this study of OHV driving behavior and behavioral intentions. The theory suggests that a person's behavior is best predicted by one's intention to perform that behavior. Further, one's intention to act is influenced by salient attitudes towards the outcome of the behavior and the perceived influence of peers and other important people (social norms) (Ajzen, 1991). Further, attitudes and norms are all influenced by a core set of salient beliefs. Beliefs can be created or manipulated through direct experience or from outside sources, including other people or media sources such as TL!, the NPS, or an OHV club (Fishbein & Ajzen, 1975). The relationship between the key concepts is represented in Figure 3.1 below.

Figure 3.1: Theory of Reasoned Action



The TRA has received widespread application within the field of natural resource management and recreation (Fishbein & Manfredo, 1992). This has included research examining public attitudes and behaviors regarding forest fires in national parks and in the wildland urban interface (Bright, Fishbein, Manfredo, & Bath, 1993; Vogt, Winter, & Fried, 2005), power boaters compliance with posted speed limits to protect an endangered species (Aipanjiguly, Jacobson, & Flamm, 2003), and recreation behavior (Young & Kent, 1985). The TRA has also received widespread application in other fields including education, health, marketing, and organizational behavior (e.g., Sheppard, Hartwick, Warshaw, 1988). Finally the TRA is recognized as a robust theory suitable for

investigations into the efficacy of visitor education in natural areas (Marion & Reid, 2007; Heimlich & Ardoin, 2008).

The underlying value of the TRA for examining the TL! education program is based upon the assumption that beliefs and associated attitudes can be changed through education, that these attitudes are an accurate predictor of intentions, and intentions guide behavior. Thus understanding attitudes regarding TL! promoted behaviors will help managers improve educational efforts to support positive resource protection behaviors. The theory contends that attitudes can be reinforced or influenced in a positive direction by using persuasive messages that target individual's salient beliefs toward the outcome of the behavior and the social acceptability of performing or not performing a particular behavior (e.g. Ham et. al 2008).

SECTION IV –METHODS

Survey Development

We used a number of social science research procedures to develop the TL! questionnaire (Babbie, 2001; DeVellis, 2003; Foddy, 1993; Fowler, 1993). The TL! questionnaire is largely identical for all three study locations, except where the sites are referenced in the questionnaire. There are also site-specific questions included in each survey at the request of agency personnel in the respective units. The specific steps for developing the survey are described below.

First, the initial draft of the TL! questionnaire was based on extensive prior research, most notably the recently completed “Leave No Trace” (LNT) study that also assessed a minimum-impact visitor education program and utilized a related theoretical framework and a similar data collection method (Powell, Wright, & Vagias, 2008; Vagias & Powell, 2010).

Second, a full literature review of OHV research was undertaken and a list of potential questions was developed. Questions were adopted from these past studies and refined based on our theoretical framework and their suitability for investigating TL!. These past studies included: Cordell, Betz, Green, & Owens, 2005; Fly, Stephens, Askins, & Hodges, 2002; Lewis & Paige, 2006; Lord, Elmendorf, & Strauss, 2004; Schoenecker, 2006; Smail, 2007; Yankoviak, 2005. Each study was reviewed and the primary authors contacted to obtain full questionnaires.

Third, the TL! survey instrument was reviewed by NPS staff from BICY and CANY, and by BLM staff at ISDRA.

Fourth, after review by agency personnel, OHV stakeholder groups at two of the study sites and TL! staff members at the national TL! office completed an extensive review and provided written and oral comments. During this stage, the researchers attended a public BICY Off-Road Vehicle (ORV) Advisory Committee meeting in Everglades City to introduce the study, its purpose, and how the results will be used. Questions were answered, and a subcommittee of BICY ORV enthusiasts/representatives was formed to review and comment on the questionnaire and research design (see Powell and Vagias, 2010 for a full description of the BICY process). Similar outreach efforts were undertaken in ISDRA with representatives and the Board of Directors of the American Sand Association and other OHV stakeholders and BLM staff via conference calls. During this process, all questions in the survey were extensively reviewed by stakeholders and comments were received and incorporated. Reviewers were asked to identify questions that might elicit socially desirable answers (King & Bruner, 2000), were confusing, or poorly worded. This process had similar goals and results to cognitive testing (e.g., Conrad, Blair, & Elena, 1999; Presser, et al., 2004).

Finally, the procedures and questionnaire were reviewed by the National Park Service Social Science Office and the U.S. Office of Management and Budget to ensure compliance with the Paper Reduction Act. This final review process took over 14 months to complete and greatly impacted the timeline of the study.

Survey Themes

As stated above, the questions used in this study were developed to reflect the theoretical underpinning (Theory of Reasoned Action and Diffusion of Innovations Theory) and the TL! education program. For reference, the complete questionnaire is available in Appendix II of this report. The following section briefly describes each of the measures used within the study.

Section A

Section A of the questionnaire explored the respondents OHV experience, vehicle characteristics, and details pertaining to trip characteristics. Questions explored the number of annual trips to the site and the duration of these trips, typical group composition, and recent volunteering or donating behaviors at the site. The section also investigated self-assessed OHV driving skill level. The utility of examining levels of involvement, termed specialization, allows both researchers and managers to differentiate between types of visitors (Bryan, 1977). Formally, recreation specialization is defined as “a continuum of expertise, reflected by the equipment and skills used in the sport and activity setting preferences” (Manning, 1999, pp. 235-236). It has been hypothesized and supported empirically that recreationalists with varying levels of specialization will also have varying attitudes, beliefs, preferences, and behaviors (Manning, 1999). The behavioral component of specialization has been most commonly examined through what is termed ‘experience use history’ or EUH (Schreyer, Lime, & Williams, 1984; Watson & Niccolucci, 1992). The focus of EUH has centered upon years of experience in an activity, frequency of participation, and number of visits to a particular area (Manning, 1999).

Section B

Section B of the questionnaire was comprised of 24 items designed to explore respondents’ attitudes toward a variety of TL! recommended behaviors that correspond to the 5 TL! principles. Prior to this research, such a measure did not exist. A seven-point scale was used to anchor the questions, which ranged from 1 ‘Strongly Disagree’ to 7 ‘Strongly Agree’ with neutral indicated by a 4 (the midpoint).

Section C

Section C of the questionnaire explored motivations for operating OHVs at the particular location by asking about the importance of 7 potential motivators. Respondents rated the importance of each motivator on a scale from 1 ‘not very important’ to 7 ‘extremely important’. The midpoint, (4) was indicated by ‘neutral’.

Section D

Section D investigated respondents’ intention to perform a selection of 11 TL! recommended behaviors. The scale was anchored on a 7-point scale from 1 ‘Definitely DO NOT intend to’ to 7 (Definitely DO intend to’ with 4 (neutral) being the midpoint.

Section E

Section E investigated the potential determinants of future intentions. ‘Subjective norms’ and ‘Attitudes toward the outcomes of a behavior’ were investigated. These measures were adopted from past research and adapted for application in this study. Additionally items were included in the section that explored attitudes toward the managing agency of the site and early life experiences, including hunting and engaging in mechanized recreational activities.

Section F

Section F of the questionnaire explored a variety of variables related to the diffusion and communication sources of the TL! message. Respondents were asked to indicate their first and primary sources of TL! information, overall attitudes regarding the effectiveness of the TL! message, and the effectiveness of communication sources including the TL! website, clubs, printed media and trade shows.

Section G

Section G was used to ask specific questions for each of the managing agencies.

Section H

Section H of the questionnaire investigated demographic variables including age, gender, ethnic background, and education level.

Sampling Procedures and Response Rate

A systematic random sampling technique was used to sample 600 OHV visitors to 2 National Parks and one BLM site. The three sites, Big Cypress National Preserve (BICY), Canyonlands National Park (CANY), and Imperial Sand Dunes Recreation Area (ISDRA), were selected to represent a range of ecosystems and a range of TL! education efforts regarding minimum-impact OHV practices.

As a sampling frame in BICY, we used the 2009 Off Road Vehicle (ORV) permit holder address list (n=1,865). All drivers of ORVs in BICY are required to obtain permits. For the BICY study, a systematic random sample of 600 of the 2009 ORV permit holders was developed.

At CANY we used the 2009 Backcountry Visitor Permit Holders that drove vehicles (n=2,965). All drivers of street legal 4 wheel drive vehicles that camp overnight in the backcountry of CANY are required to obtain permits. In CANY, a systematic sample of 600 was developed from the list of individuals who received a 2009 multi-day backcountry driving permit.

For ISDRA we used the 2009 American Sands Association membership list (n=29,000) as a sampling frame (see <http://www.americansandassociation.org> for more information). American Sand Association (ASA) works closely with Bureau of Land Management to provide TL! educational

information for ISDRA. Using the 2009 ASA membership mail list, we stratified the sample by zip codes in areas proximate to ISDRA in the states of CA and AZ.

With each sample, a random numbers table was utilized to select the first individual from the mail lists and then subsequently every k^{th} individual was selected to produce a representative sample. The sampling interval was determined by dividing the number of 2009 permit holders/members by the necessary sample size (600 initial contacts from each site).

For each site a modified Dillman (2007) mail procedure with multiple contacts ($n = 3$) was used to collect data for the study. The first mailing for each sample included a cover letter explaining the purpose of the study, a self-administered paper questionnaire, and a business reply envelope to send back the completed questionnaire. Once the volume of returned questionnaires slowed down the second mailing, a thank you/reminder postcard, was mailed. Finally, when responses for each sample noticeably declined a final mailing was sent that included another cover letter, replacement questionnaire, and business reply envelope. Because of a low response, the Imperial Sand Dunes list was contacted a fourth time with another replacement questionnaire in an attempt to increase the number of completed and returned questionnaires.

A total of 1,800 individuals (600 per site) were contacted in the fall of 2009 and winter of 2010 to participate in the study. Of the 1,800 addresses, 121 were invalid. A total of 841 completed questionnaires were returned for an adjusted response rate of 50.1%. Table 4.1 provides a breakdown of response rates for each site included in the study.

Table 4.1: Response Rate

Park	Initial Contact	Mail-back Procedure			Adjusted Response Rate
	N Individuals Sent Questionnaire	N of Invalid Addresses	N of Valid Addresses	N of Valid Returns	
CANY	600	39	561	387	69.0
BICY	600	20	580	291	50.2
ISDRA	600	62	538	163	30.3
Totals	1800	121	1679	841	50.1

Data Preparation

Returned questionnaires were coded and entered into Microsoft Access Database to facilitate data entry and lessen instances for data entry errors. The data was then transferred to SPSS for screening and analysis. Univariate outliers were examined via scatter plots. The majority of the results are presented in tables with several graphical figures to facilitate presentation and comprehension of results.

SECTION V – DESCRIPTIVE RESULTS

Visitor Characteristics

This section of the report includes the demographic data analyses of the participants from the three study sites. As displayed in Table 5.1, males accounted for approximately 80% to over 95% in each of the three samples. The average age of respondents for all three samples was mid to late 40's, with the youngest being from ISDRA ($m = 46.43$) and oldest being from CANY ($m = 49.62$). While very few CANY and ISDRA respondents indicated they are Hispanic or Latino, close to 20% of BICY's respondents indicated they were Hispanic/Latino. Overall, the predominant race for respondents from all sites was white. The respondents from all three sites were highly educated with an average number of years of education of approximately 14 (2 years of college education) for BICY and ISDRA and over 16 years of education for CANY (4 years of college education).

Table 5.1: Demographic Characteristics

	CANY		BICY		ISDRA	
	N	Percent	N	Percent	N	Percent
Gender						
Male	307	80.8	274	95.5	140	89.2
Female	73	19.2	13	4.5	17	10.8
Totals	380	100.0	287	100.0	157	100.0
Age Profile (years)						
29 or younger	23	6.1	17	5.9	14	8.9
30 - 39	60	15.9	54	18.9	30	19.1
40 - 49	86	22.8	77	26.9	43	27.4
50 - 59	130	34.5	85	29.7	49	31.2
60 - 69	64	17.0	34	11.9	18	11.5
70 or older	14	3.7	19	6.6	3	1.9
Totals	377	100.0	286	100.0	157	100.0
<i>Mean age (sd) for unit</i>	49.62	(12.11)	48.9	(12.65)	46.43	(11.93)
Hispanic or Latino?						
Yes	15	3.9	57	19.6	15	9.2
No or No response	372	96.1	234	80.4	148	90.8
Totals	387	100	291	100	163	100
Race						
White	361	97.8	275	98.9	141	97.9
Black or African American	1	0.3	0	0.0	2	1.4
Asian	4	1.1	0	0.0	0	0.0
American Indian / Alaska Native	1	0.3	3	1.1	0	0.0
Native Hawaiian / Pacific Islander	2	0.5	0	0.0	1	0.7
Totals	369	100.0	278	100.0	144	100.0

Table 5.1(Continued): Demographic Characteristics

Education							
Elementary							
5	0	0.0	0	0.0	0	0.0	
6	0	0.0	0	0.0	0	0.0	
7	0	0.0	1	0.4	0	0.0	
8	0	0.0	0	0.0	1	0.7	
High School							
9	0	0.0	4	1.4	1	0.7	
10	0	0.0	2	0.7	1	0.7	
11	0	0.0	4	1.4	2	1.4	
12	16	4.2	104	37.5	35	23.6	
College							
13	14	3.7	31	11.2	15	10.1	
14	33	8.7	41	14.8	43	29.1	
15	20	5.3	17	6.1	12	8.1	
16	130	34.4	44	15.9	29	19.6	
Graduate Study							
17	26	6.9	0	0.0	4	2.7	
18	53	14.0	15	5.4	2	1.4	
19	29	7.7	4	1.4	1	0.7	
20+	57	15.1	10	3.6	2	1.4	
Totals	378	100.0	277	100.0	148	100.0	
<i>Mean education (sd) for unit</i>	16.67	(2.17)	13.85	(2.37)	14.01	(1.92)	

Trip Characteristics and Experience Use History

Respondents were asked a series of questions related to their visits to the respective sites in 2009, as well as items about their experience use history operating an OHV/ORV (Table 5.2). The average number of trips to the respective area in 2009 to engage in OHV/ORV operation ranged from 1.5 to Canyonlands, to over 11 to Big Cypress. ASA Respondents averaged almost 5 trips to ISDRA in 2009. The average number of OHV/ORVs per group ranged from 1.81 in CANY to 9.10 in ISDRA. The number of individuals per group ranged from 4.37 in BICY to 14.64 in ISDRA. The number of days spent at the respective site ranged from 3.88 in ISDRA to 17.67 in BICY. On average, respondents in all samples have been operating an OHV/ORV at least 18 years.

Table 5.2: Trip Characteristics and Experience Use History

Unit	Variable	N	Percent	Mean	SD	Range
CANY	In 2009, how many trips did you make to Canyonlands National Park to engage in OHV operation?	376	--	1.59	1.57	0-17
	How many OHVs are normally in your group?	374	--	1.81	1.60	0-15
	How many individuals, including yourself, are normally in your group?	370	--	5.82	4.77	0-30
	Number of days you spent at Canyonlands National Park	371	--	5.24	11.48	0-200
	Number of hours you spent at Canyonlands National Park	159	--	23.38	55.97	0-500
	How many years have you been operating an OHV?	369	--	18.02	11.68	0-60
	How many days in the past 12 months did you operate an OHV off-road?	368	--	25.71	53.17	0-365
BICY	In 2009, how many trips did you make to Big Cypress National Preserve to engage in ORV operation?	284	--	11.44	12.1	0-121
	How many ORVs are normally in your group?	283	--	2.63	1.63	0-10
	How many individuals, including yourself, are normally in your group?	284	--	4.37	2.94	0-21
	Number of days you spent at Big Cypress National Preserve	252	--	17.67	19.04	0-120
	Number of hours you spent at Big Cypress National Preserve	157	--	175.06	395.64	0-2880
	How many years have you been operating an ORV?	284	--	22.33	14.64	0-56
	How many days in the past 12 months did you operate an ORV off-road?	275	--	29.99	38.51	0-300
ISDRA	In 2009, how many trips did you make to ISDRA to engage in OHV operation?	159	--	4.74	4.59	0-30
	How many OHVs are normally in your group?	156	--	9.10	7.46	1-50
	How many individuals, including yourself, are normally in your group?	152	--	14.64	10.44	2-60
	Number of hours, if less than 24	7 ¹	--	6.57	4.54	3-16
	Number of days, if more than 24	148	--	3.88	6.05	1-75
	How many years have you been operating an OHV?	157	--	25.04	10.30	2-53
	How many days in the past 12 months did you operate an OHV off-road?	157	--	22.66	31.54	0-365

¹ - Caution should be exercised in interpreting this mean value as 20 or less individuals responded to this question

Skill Level

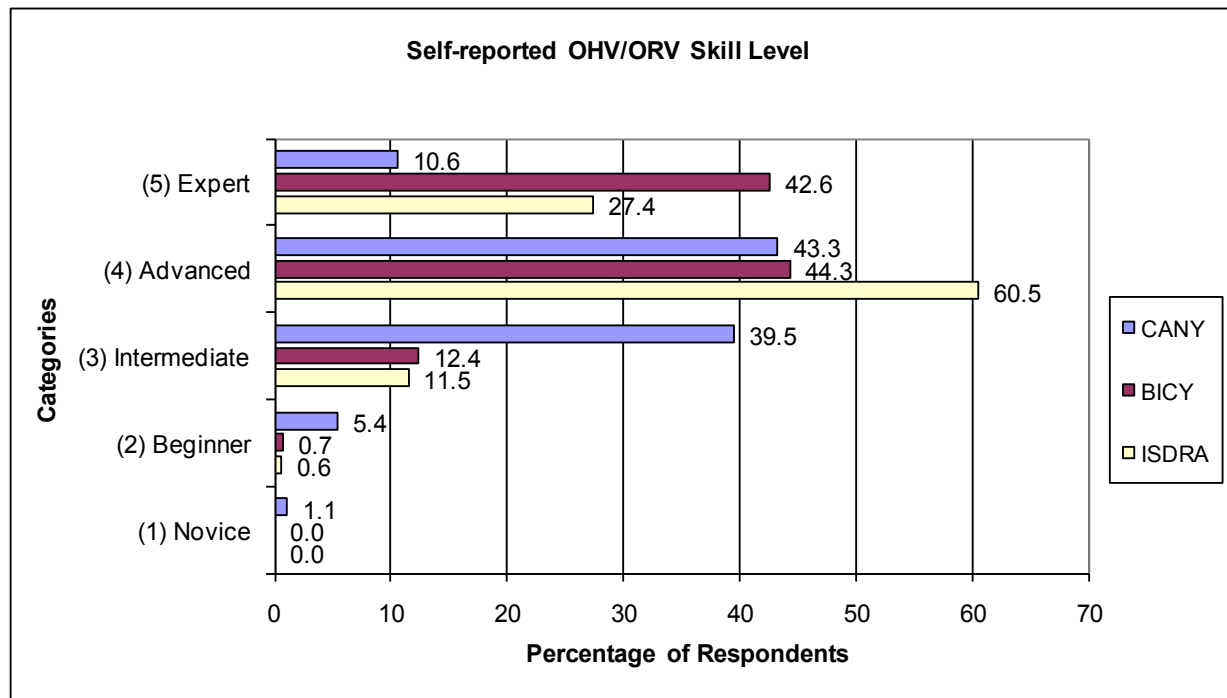
Respondents were also asked to indicate their OHV/ORV skill level, ranging from 1 = novice to 5 = expert. As displayed in Table 5.3 and Figure 5.1, visitors to Canyonlands reported the lowest skill level ($m = 3.57$, intermediate to advanced) with 40% reporting intermediate skills and BICY the highest ($m = 4.29$, advanced to expert) with 43% reporting expert skills. ISDRA visitors also reported an advanced to expert skill level ($m = 4.15$) with 61% reporting advanced skill level.

Table 5.3: Self-Reported OHV/ORV Skill Level

Item	Unit	N	Mean ¹	SD	(1) Novice	(2) Beginner	(3) Intermediate	(4) Advanced	(5) Expert
<i>Please rate your skill level in driving an OHV/ORV off-road?</i>	CANY	367	3.57	0.80	1.1	5.4	39.5	43.3	10.6
	BICY	282	4.29	0.71	0.0	0.7	12.4	44.3	42.6
	ISDRA	157	4.15	0.63	0.0	0.6	11.5	60.5	27.4

¹ - mean based on 5-point scale

Figure 5.1: Self-Reported OHV/ORV Skill Level



Motivations for Operating OHV/ORVs

Respondents were asked to respond ‘Yes’ or ‘No’ to a series of items regarding their motivation to operate their ORV/OHV. If a respondent selected yes, they were asked the level of importance of the respective item on a scale of 1 = Not Very Important to 7 = Extremely Important. Across all three samples, a few of the most common and important motivations included trail/leisure riding, camping, and family/friends outing (Table 5.4). The importance of both camping and family/friends outing for all three samples had means that exceeded 6.00 and thus were very important to respondents. There were also some noticeable differences in motivations between the samples. For example, 87% of CANY respondents and 75% of BICY respondents were motivated to drive an OHV/ORV to get “access to otherwise inaccessible areas” while only 49% of ISDRA respondents indicated that it was a motivation. 67% of CANY and 91% of BICY respondents were motivated by wildlife viewing and only 37.4% of ISDRA respondents were motivated by wildlife viewing. Similarly, only 19% of CANY respondents and 15.5% of BICY respondents were motivated by sport/aggressive recreation driving while 77% of ISDRA respondents were motivated by this item. Hunting was also a very important motivation for BICY ORV enthusiasts (79%) while only 9% of CANY (not legal in CANY) and 19% of ISDRA respondents indicated this as important.

Table 5.4: Motivations for Operating ORV/OHV

<i>Please indicate which of the following motivates you to operate your ORV/OHV</i>					<i>If yes -->, please rate the importance of that Motivational factor</i>			
	Unit		N	Percent		N	Mean ¹	SD
Trail/Leisure Riding	CANY	No/NR	99	25.6				
		Yes	288	74.4	<i>If yes --></i>	286	5.85	1.31
	BICY	No/NR	38	13.1				
		Yes	253	86.9	<i>If yes --></i>	248	6.31	1.12
	ISDRA	No/NR	16	9.8				
		Yes	147	90.2	<i>If yes --></i>	147	6.24	1.09
Access to otherwise inaccessible areas	CANY	No/NR	51	13.2				
		Yes	336	86.8	<i>If yes --></i>	331	6.38	0.93
	BICY	No/NR	73	25.1				
		Yes	218	74.9	<i>If yes --></i>	214	6.50	0.90
	ISDRA	No/NR	83	50.9				
		Yes	80	49.1	<i>If yes --></i>	80	5.78	1.27
Camping	CANY	No/NR	43	11.1				
		Yes	344	88.9	<i>If yes --></i>	332	6.18	1.01
	BICY	No/NR	51	17.5				
		Yes	240	82.5	<i>If yes --></i>	235	6.52	0.96
	ISDRA	No/NR	17	10.4				
		Yes	146	89.6	<i>If yes --></i>	146	6.49	0.96
Sport/Aggressive recreation driving	CANY	No/NR	313	80.9				
		Yes	74	19.1	<i>If yes --></i>	74	4.86	1.79
	BICY	No/NR	246	84.5				
		Yes	45	15.5	<i>If yes --></i>	44	5.84	1.45
	ISDRA	No/NR	38	23.3				
		Yes	125	76.7	<i>If yes --></i>	125	6.02	1.27

Table 5.4 (Continued): Motivations for Operating ORV/OHV

Family/Friends Outing	CANY	No/NR	64	16.5				
		Yes	323	83.5	<i>If yes --></i>	316	6.05	1.10
	BICY	No/NR	26	8.9				
		Yes	265	91.1	<i>If yes --></i>	261	6.59	0.88
	ISDRA	No/NR	10	6.1				
		Yes	153	93.9	<i>If yes --></i>	153	6.66	0.84
Hunting/Fishing	CANY	No/NR	352	91.0				
		Yes	35	9.0	<i>If yes --></i>	34	4.94	1.95
	BICY	No/NR	62	21.3				
		Yes	229	78.7	<i>If yes --></i>	225	6.72	0.75
	ISDRA	No/NR	132	81.0				
		Yes	31	19.0	<i>If yes --></i>	31	5.45	1.73
Wildlife Viewing	CANY	No/NR	128	33.1				
		Yes	259	66.9	<i>If yes --></i>	255	5.49	1.28
	BICY	No/NR	27	9.3				
		Yes	264	90.7	<i>If yes --></i>	259	6.50	0.99
	ISDRA	No/NR	102	62.6				
		Yes	61	37.4	<i>If yes --></i>	61	5.52	1.40
Other	CANY	No/NR	259	66.9				
		Yes	128	33.1	<i>If yes --></i>	120	6.70	0.76
	BICY	No/NR	236	81.1				
		Yes	55	18.9	<i>If yes --></i>	51	6.92	0.34
	ISDRA	No/NR	147	90.2				
		Yes	16	9.8	<i>If yes --></i>	14 ²	6.29	1.64
¹ - Mean scores regarding importance of motivation item (1=Not Very Important, 4=Neutral, 7=Extremely Important)								
² - Caution should be exercised in interpreting this mean value as 20 or less individuals responded to this question								

Vehicle Type

Respondents were asked to indicate which type of OHV/ORV they primarily drive at the respective site. A number of respondents indicated more than one type of vehicle. Therefore, the totals add to more than the respective sample sizes and percentages greater than 100% (Table 5.5). The primary vehicle type in Canyonlands was street legal 4X4 (a requirement of CANY), reported by almost 95% of respondents. The predominant vehicle in BICY and ISDRA was ATV/UTV, reported by 47.2% and 54.1% respectively. The second most popular vehicle in BICY was swamp buggies (43.7%) and in ISDRA was dune buggy/dune rail (39.4%).

Table 5.5: OHV/ORV Type

	CANY		BICY		ISDRA	
	N	Percent	N	Percent	N	Percent
Street Legal 4X4	355	94.9	37	12.9	31	19.7
Motorcycle	14	3.7	--	--	24	15.3
Swamp Buggy	--	--	125	43.7	--	--
ATV/UTV (Quad, etc)	--	--	135	47.2	85	54.1
Dune Buggy/Dune Rail	--	--	--	--	62	39.4
Other	8	2.1	9	3.1	4	2.5

Although respondents were asked to indicate their primary OHV/ORV (check one) a number of people marked more than one. As a result, the percentages add to more than 100%. Sample sizes for the respective site for this question were: Canyonlands n = 374, Big Cypress n = 286, Imperial Sand Dunes n = 157.

Diffusion of the TL! Message: Communication and Education

The communication and education section of the questionnaire asked respondents a series of questions related to the diffusion of TL!. Specifically, in this study we investigated the individual innovation-decision process by investigating visitors’ awareness, knowledge, attitudes, and intentions regarding the TL! message and recommended practices. In addition, we explored the communication channels used by the TL!, agencies, and clubs and their effectiveness in promoting the TL! message.

First, respondents’ awareness of TL! was examined by asking if they had ever heard of TL!, and if so in what year. As indicated in Table 5.6, over 60% in each of the three samples had heard of TL!. In addition, each sample indicated an average year of first hearing of TL! , which was around 1993 to 1994.

Table 5.6: Descriptive Statistics of Awareness and Year First Hearing of TL!

	Unit			N	Percent		N	Mean ¹	SD
		No/NR	Yes						
<i>Have you ever heard of Tread Lightly! (TL!)?</i>	CANY	No/NR		88	22.7				
		Yes		299	77.3	<i>If yes -></i>	213	1994.38	10.54
	BICY	No/NR		110	37.8				
		Yes		181	62.2	<i>If yes -></i>	121	1993.80	13.32
	ISDRA	No/NR		50	30.7				
		Yes		113	69.3	<i>If yes -></i>	84	1993.94	12.35

¹- Mean value represents the average year respondents reported first hearing of Tread Lightly! (TL!)

Respondents who indicated they were aware of TL! were asked to report their self described level of current knowledge of TL! ranging from 1 = No Knowledge to 7 = Expert Knowledge. As indicated

in Table 5.7, CANY respondents had the highest self-reported knowledge level at close to 5.00. However, the BICY and ISDRA respondents also reported a knowledge level above 4.00, which corresponds with average knowledge.

Table 5.7: Descriptive Statistics of Awareness and Current Knowledge of TL!

					<i>If yes -->, How would you describe your current knowledge of the Tread Lightly! Principles?</i>			
						N	Mean ¹	SD
	Unit		N	Percent				
Have you heard of Tread Lightly?!	CANY	No/NR	88	22.7				
		Yes	299	77.3	<i>If yes --></i>	286	4.96	1.29
	BICY	No/NR	110	37.8				
		Yes	181	62.2	<i>If yes --></i>	177	4.76	1.41
	ISDRA	No/NR	50	30.7				
		Yes	113	69.3	<i>If yes --></i>	108	4.50	1.26

¹ - Mean scores regarding current know ledge (1=No Know ledge, 4=Average Know ledge, 7=Expert Know ledge)

Attitudes regarding the TL! Program and Message

Respondents who were aware, were also asked a series of items to measure their opinions of the TL! message. As evident in Table 5.8 respondents generally had favorable opinions of the TL! message with mean ratings for the most part above neutral. For example, all three groups had a mean above 5.00 when asked if the TL! message made them think about ways to minimize the impacts caused by their ORV/OVH. 52% of CANY, 41% of BICY and 43.5% of ISDRA respondents indicated some level of agreement regarding learning new information on how to reduce my OHV’s impact from TL!. Similarly, 69% of CANY, 52% of BICY, and 48% of ISDRA respondents indicted that the TL! education program influences their driving behaviors. However, all three groups had a mean score near neutral regarding their opinion that the TL! principles are too general. In fact, between 63 and 76 % of people responding to this question depending on site were neutral or agreed that the TL! principles were too general. As stated, overall, of the respondents that were aware of TL!, the majority had favorable attitude toward the utility of the message.

Table 5.8: Means, Standard Deviations, and Percent Distribution of Opinions Regarding TL! Message

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree			(4) Neutral			(7) Strongly Agree	
<i>The TL! Message made me think about ways to minimize impacts caused by my ORV/OHV</i>	CANY	287	5.95	1.11	0.3	0.3	0.3	11.5	18.5	27.9	41.1	
	BICY	176	5.58	1.45	2.8	0.0	0.6	25.6	11.4	23.3	36.4	
	ISDRA	109	5.35	1.21	0.0	1.8	0.9	25.7	24.8	25.7	21.1	
<i>The TL! principles are too general</i>	CANY	283	3.57	1.25	6.4	15.9	14.8	48.1	7.8	6.4	0.7	
	BICY	177	3.91	1.50	10.7	7.3	6.2	50.8	10.7	9.0	5.1	
	ISDRA	108	3.56	1.26	10.2	10.2	10.2	59.3	6.5	0.9	2.8	
<i>TL! Provides useful information for minimizing environmental impacts while operating my ORV/OHV in ???</i>	CANY	286	5.76	1.14	0.3	1.4	0.7	10.1	25.2	31.1	31.1	
	BICY	173	5.36	1.44	1.7	0.6	3.5	28.9	15.0	19.7	30.6	
	ISDRA	108	5.31	1.27	1.9	0.9	0.9	22.2	28.7	25.0	20.4	
<i>The TL! educational message insults my intelligence</i>	CANY	287	2.40	1.47	36.6	24.0	15.0	17.1	3.5	1.7	2.1	
	BICY	171	2.86	1.84	35.1	15.8	7.6	28.7	2.9	2.3	7.6	
	ISDRA	107	2.99	1.62	24.3	21.5	9.3	30.8	5.6	6.5	1.9	
<i>TL! Guidelines provide relevant information on how best to drive my ORV/OHV while in ???</i>	CANY	286	5.64	1.16	0.7	0.7	1.0	15.0	23.4	32.5	26.6	
	BICY	175	5.17	1.58	4.0	1.1	4.6	29.7	12.0	21.7	26.9	
	ISDRA	108	4.87	1.29	0.9	3.7	4.6	30.6	32.4	13.9	13.9	
<i>I learned new information on how to reduce my ORV/OHV's impact from TL!</i>	CANY	287	4.59	1.62	4.9	7.7	8.0	27.5	19.9	18.8	13.2	
	BICY	174	4.42	1.76	10.3	4.6	4.6	39.7	10.9	13.8	16.1	
	ISDRA	108	4.24	1.61	10.2	4.6	8.3	33.3	21.3	15.7	6.5	
<i>The TL! Educational message assumes ORV/OHV operators cause negative environmental impacts</i>	CANY	284	4.34	1.64	7.7	7.7	8.5	29.9	21.5	14.4	10.2	
	BICY	172	4.48	1.82	9.9	5.2	5.8	36.6	11.0	11.0	20.3	
	ISDRA	108	4.69	1.55	5.6	3.7	3.7	35.2	22.2	14.8	14.8	
<i>The TL! Educational program influences my driving behaviors</i>	CANY	285	5.24	1.39	1.8	2.5	3.5	23.5	20.7	27.7	20.4	
	BICY	174	4.78	1.79	8.0	4.6	3.4	32.2	10.9	19.0	21.8	
	ISDRA	108	4.56	1.49	3.7	6.5	6.5	35.2	20.4	16.7	11.1	

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Communication Channels and Sources of TL! Information

Respondents who had heard of TL! were asked to indicate (Yes or No) what sources were used to learn about TL!, and if yes the amount learned on a scale of 0 = Nothing to 6 = Extensive Amount. The respective site literature was the most common source of information, ranging from 45% in Imperial Sand Dunes to 67% in Canyonlands (Table 5.9). ISDRA respondents (all ASA members), indicated that the most prevalent source of TL! was the American Sand Association literature and website with 71% indicating they used this source. The most prevalent source of TL! information for BICY and CANY respondents was the NPS literature with 59% and 67% respectively indicating

that they used this source. TL! literature was the second most used source for CANY respondents (52%). An ORV driving course was the second most used source of TL! information for BICY respondents (42%). BLM literature was the second most used source of TL! information for ISDRA respondents (45%). If an individual used one of the sources listed in the survey, then the amount they learned from the respective literature or source was very consistent and was slightly above the moderate amount level (approximate mean of 4.00). This seems to indicate that if a source was used for information regarding TL! they were moderately effective in diffusing the message.

Table 5.9: Use and Effectiveness of Sources of TL! Information

<i>Have you used any of the following sources to learn about Tread Lightly!?</i>					<i>If yes -->, indicate how much you learned about TL! from the source</i>			
	Unit		N	Percent		N	Mean ¹	SD
NPS/BLM educational talk/video	CANY	No/NR	191	63.9				
		Yes	108	36.1	<i>If yes --></i>	104	3.82	1.18
	BICY	No/NR	106	58.6				
		Yes	75	41.4	<i>If yes --></i>	74	3.82	1.39
	ISDRA	No/NR	103	91.2				
		Yes	10	8.8	<i>If yes --></i>	9 ²	3.89	1.05
ORV/OHV club (website or literature)	CANY	No/NR	245	81.9				
		Yes	54	18.1	<i>If yes --></i>	54	3.98	1.58
	BICY	No/NR	144	79.6				
		Yes	37	20.4	<i>If yes --></i>	36	4.28	1.23
	ISDRA	No/NR	90	79.6				
		Yes	23	20.4	<i>If yes --></i>	23	4.04	1.15
American Sand Association literature/web	CANY	No/NR	--	--				
		Yes	--	--	<i>If yes --></i>	--	--	--
	BICY	No/NR	--	--				
		Yes	--	--	<i>If yes --></i>	--	--	--
	ISDRA	No/NR	33	29.2				
		Yes	80	70.8	<i>If yes --></i>	80	4.04	1.23
United Desert Gateway literature/web	CANY	No/NR	--	--				
		Yes	--	--	<i>If yes --></i>	--	--	--
	BICY	No/NR	--	--				
		Yes	--	--	<i>If yes --></i>	--	--	--
	ISDRA	No/NR	103	91.2				
		Yes	10	8.8	<i>If yes --></i>	10 ²	3.80	1.62
XNP/BLM Literature	CANY	No/NR	100	33.4				
		Yes	199	66.6	<i>If yes --></i>	193	4.00	1.21
	BICY	No/NR	75	41.4				
		Yes	106	58.6	<i>If yes --></i>	103	3.91	1.40
	ISDRA	No/NR	62	54.9				
		Yes	51	45.1	<i>If yes --></i>	50	4.00	1.16

Table 5.9 (Continued): Use and Effectiveness of Sources of TL! Information

Tread Lightly! Literature	CANY	No/NR	143	47.8				
		Yes	156	52.2	<i>If yes --></i>	149	4.15	1.30
	BICY	No/NR	109	60.2				
		Yes	72	39.8	<i>If yes --></i>	72	3.90	1.44
	ISDRA	No/NR	70	61.9				
		Yes	43	38.1	<i>If yes --></i>	42	3.95	1.32
XNP/BLM website	CANY	No/NR	196	65.6				
		Yes	103	34.4	<i>If yes --></i>	96	3.91	1.44
	BICY	No/NR	121	66.9				
		Yes	60	33.1	<i>If yes --></i>	58	3.95	1.44
	ISDRA	No/NR	89	78.8				
		Yes	24	21.2	<i>If yes --></i>	24	3.83	1.47
TL! Website	CANY	No/NR	268	89.6				
		Yes	31	10.4	<i>If yes --></i>	31	3.77	2.14
	BICY	No/NR	156	86.2				
		Yes	25	13.8	<i>If yes --></i>	24	4.17	1.49
	ISDRA	No/NR	104	92.0				
		Yes	9	8.0	<i>If yes --></i>	9 ²	3.67	1.80
Family and Friends	CANY	No/NR	193	64.5				
		Yes	106	35.5	<i>If yes --></i>	103	3.94	1.45
	BICY	No/NR	108	59.7				
		Yes	73	40.3	<i>If yes --></i>	71	4.37	1.46
	ISDRA	No/NR	66	58.4				
		Yes	47	41.6	<i>If yes --></i>	45	4.11	1.35
Magazines or books	CANY	No/NR	184	61.5				
		Yes	115	38.5	<i>If yes --></i>	114	4.04	1.42
	BICY	No/NR	115	63.5				
		Yes	66	36.5	<i>If yes --></i>	64	3.86	1.56
	ISDRA	No/NR	63	55.8				
		Yes	50	44.2	<i>If yes --></i>	49	3.82	1.36
ORV/OHV Driving Class/Course	CANY	No/NR	180	93.6				
		Yes	19	6.4	<i>If yes --></i>	19 ²	3.74	2.42
	BICY	No/NR	105	58.0				
		Yes	76	42.0	<i>If yes --></i>	72	4.21	1.40
	ISDRA	No/NR	102	90.3				
		Yes	11	9.7	<i>If yes --></i>	11 ²	3.91	1.81

Table 5.9 (Continued): Use and Effectiveness of Sources of TL! Information

ORV/OHV trade shows	CANY	No/NR	277	92.6				
		Yes	22	7.4	If yes -->	22	3.64	2.13
	BICY	No/NR	167	92.3				
		Yes	14	7.7	If yes -->	14 ²	4.64	1.22
	ISDRA	No/NR	71	62.8				
		Yes	42	37.2	If yes -->	41	3.73	1.34

¹ - Mean scores regarding amount learned from interaction (0=Nothing, 3=Moderate Amount, 6=Extensive Amount)

² - Caution should be exercised in interpreting this mean value as 20 or less individuals responded to this question

Opinions and Attitudes toward TL! Principles pertaining to OHV/ORV Use

A series of items ($n = 24$) were asked to measure respondents' opinions and attitudes about OHV/ORVs. The items were developed to measure attitudes toward the Tread Lightly! principles: travel responsibly, educate yourself, avoid sensitive areas, do your part, and respect the rights of others. Each item was anchored on a scale of 1 = strongly disagree to 7 = strongly agree.

Travel responsibly: Safety

Travel responsibly is a TL! Principle intended to encourage OHV/ORV operators to remain on designated trails and roads while operating their vehicle. The travel responsibly principle of Tread Lightly! was further divided into two areas. The first pertained to **safety** and included three items (Table 5.10 and Figure 5.2). Responses across the respective parks varied. For example, respondents from the CANY sample agreed ($m = 6.02$) it is important to walk challenging terrain before navigating it in their OHV/ORV. However, respondents from BICY ($m = 4.70$) had a lower level of agreement and ISDRA ($m = 4.24$) agreement was slightly above neutral. All respondents were in agreement that scouting an area before driving at a high speed was essential with means ranging from 5.80 at BICY to 6.11 at ISDRA. Finally in CANY and BICY, respondents generally disagreed with the notion that a single vehicle traveling alone is unsafe ($M=3.7$ for both samples).

Figure 5.2: Travel Responsibly – Safety

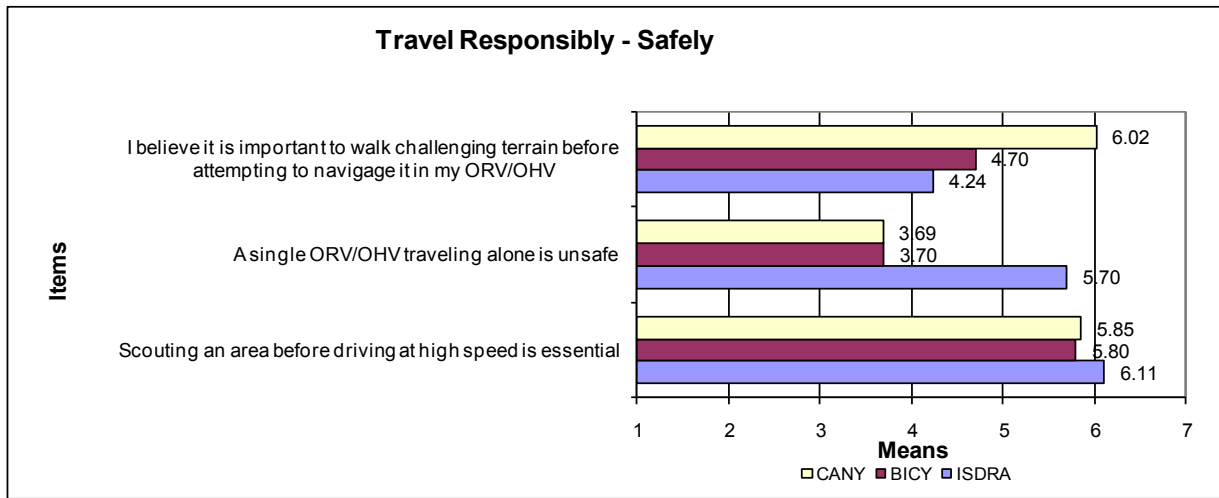


Table 5.10: Means, Standard Deviations, and Percent Distribution of Attitudes: Travel Responsibly - Safety

Item	Unit	N	Mean ¹	SD							
					(1) Strongly Disagree	(2)	(3)	(4) Neutral	(5)	(6)	(7) Strongly Agree
<i>I believe it is important to walk challenging terrain before attempting to navigate it in my ORV/OHV²</i>	CANY	378	6.02	1.32	0.5	2.9	2.4	7.7	10.8	25.7	50.0
	BICY	282	4.70	2.03	11.0	7.4	6.0	22.0	13.5	10.3	29.8
	ISDRA	158	4.24	1.86	8.9	12.0	10.1	29.7	12.0	8.9	18.4
<i>A single ORV/OHV traveling alone is unsafe²</i>	CANY	374	3.69	1.81	14.2	17.4	12.8	22.5	15.0	10.4	7.8
	BICY	284	3.70	2.28	28.5	11.6	4.2	21.5	6.3	7.0	20.8
	ISDRA	159	5.70	1.71	3.8	4.4	3.1	10.7	12.6	15.1	50.3
<i>Scouting an area before driving at high speed is essential²</i>	CANY	368	5.85	1.41	1.1	2.2	3.0	13.9	9.8	25.0	45.1
	BICY	270	5.80	1.68	5.2	1.5	1.5	14.8	6.7	17.8	52.6
	ISDRA	159	6.11	1.30	1.9	1.9	1.3	3.1	15.1	23.3	53.5

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Higher mean score reflects attitude more congruent with behavior/TL! principle

Travel responsibly: Attitudes toward OHV/ORV Regulations

The next set of items ($n = 4$) that measured the travel responsibly principle asked about the rights of operators to drive their vehicles wherever they wanted and the impacts of doing so (Table 5.11 and Figure 5.3). The four items were worded so that disagreeing with each shows support for the principle and a lower mean score on all four items indicates more *agreement with the principle* not the question. The majority of respondents from each site indicated some level of support for the TL! principle (disagreement with the statements). Canyonlands respondents had the strongest level of agreement with each of these travel responsibly items. Big Cypress and Imperial Sand

Dunes respondents were below the neutral rating (4) for most items, except both were slightly above neutral when asked if it was acceptable to drive off designated trails to avoid obstacles. However in each of the sites some percentage of individuals did not agree with the recommended TL! actions that support this principle. For example, when asked their level of agreement with the statement: *“It is my right to drive my ORV/OHV where I want on public lands”* 4.5% of CANY respondents indicated some level of agreement with the statement while 29.5% of the BICY respondents and 22.7% of the ISRDRA/ASA respondents indicated some level of agreement. When asked to respond to the statement: *“Driving my ORV/OHV where they are not allowed will leave no lasting environmental impact to XX area”* 4% of CANY respondents had some level of agreement, 27.3% of BICY respondents had some level of agreement, and 20% of ISDRA respondents indicated some level of agreement with the statement. Finally when asked to respond to *“ORV/OHV operators should be allowed to drive wherever they want in XX area”* 2% of CANY, 22% of BICY, and 41.5% of ISDRA/ASA respondents has some level of agreement with the statement.

Table 5.11: Means, Standard Deviations, and Percent Distribution of Attitudes: Travel Responsibly

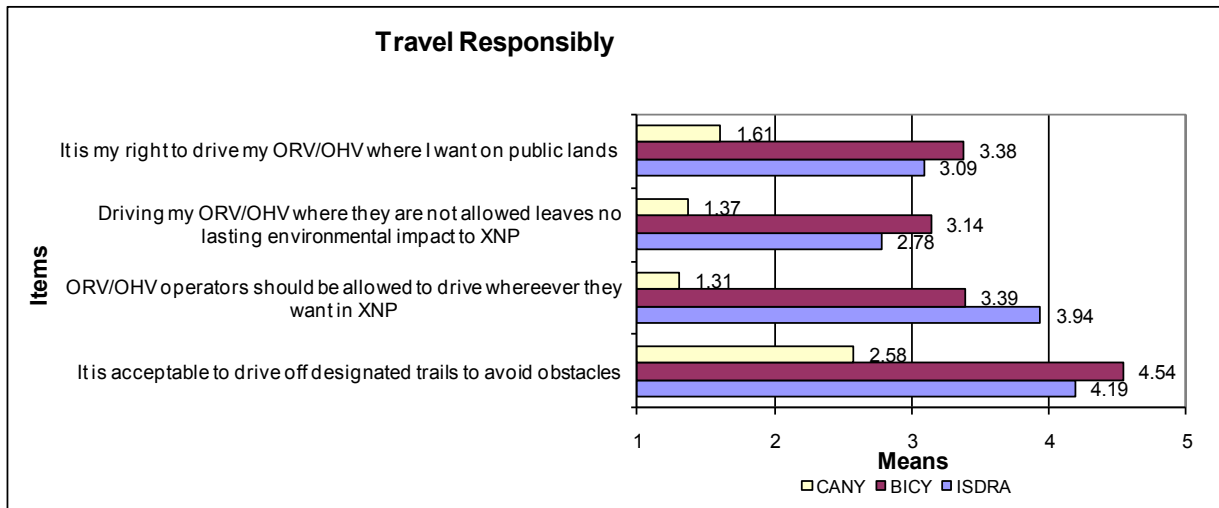
Item	Unit	N	Mean ¹²	SD	(1) Strongly Disagree		(4) Neutral			(7) Strongly Agree	
<i>It is my right to drive my ORV/OHV where I want on public lands</i> ²	CANY	377	1.61	1.21	69.5	17.2	4.5	4.2	1.9	1.3	1.3
	BICY	285	3.38	2.18	34.0	9.5	5.6	21.4	9.8	4.6	15.1
	ISDRA	159	3.09	2.03	34.0	15.1	6.9	21.4	6.9	5.7	10.1
<i>Driving my ORV/OHV where they are not allowed leaves no lasting environmental impact to XNP</i> ²	CANY	378	1.37	1.19	86.0	7.4	1.6	1.1	0.0	1.1	2.9
	BICY	279	3.14	2.12	38.4	10.0	6.8	17.6	8.6	9.0	9.7
	ISDRA	155	2.78	1.97	39.4	18.1	9.0	13.5	5.8	7.1	7.1
<i>ORV/OHV operators should be allowed to drive wherever they want in XNP</i> ²³	CANY	378	1.31	0.89	82.3	12.2	1.6	1.9	0.8	0.5	0.8
	BICY	261	3.39	2.04	29.5	9.2	6.9	32.2	5.0	3.4	13.8
	ISDRA	159	3.94	2.09	19.5	12.6	6.9	19.5	14.5	11.3	15.7
<i>It is acceptable to drive off designated trails to avoid obstacles</i> ²	CANY	373	2.58	1.72	38.3	20.6	11.0	15.5	6.7	4.3	3.5
	BICY	284	4.54	1.99	12.0	6.7	6.7	26.4	10.6	13.4	24.3
	ISDRA	159	4.19	1.72	11.3	6.3	8.8	33.3	16.4	13.8	10.1

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Lower mean score reflects attitude more congruent with behavior/TL! principle

³ - The first mailing included a typo for this item on the Big Cypress version of the questionnaire, saying Canyonlands rather than Big Cypress

Figure 5.3: Travel Responsibly



Respect the rights of others

The next principle included four items to measure respondents’ attitudes about respecting the rights of all users (i.e., private property, trail users, campers, and all others). The four items were worded so that disagreeing with each shows support for the principle. As displayed in Table 5.12 and Figure 5.4, the CANY sample showed greater support for each item compared to the BICY and ISDRA samples. However, BICY and ISDRA respondents largely agreed with each item with one exception each. BICY respondents exceeded the neutral rating with a mean of 4.41 for the item *“If I am in a designated ORV/OHV area, the noise from my vehicle shouldn’t bother anyone.”* With this item, 18.5% of CANY, 46.1% of BICY, and 39% of ISDRA respondents has some level of agreement. Imperial Sand Dunes respondents exceeded the neutral rating with a mean of 4.31 for the item *“I am opposed to being told how fast I can drive.”* With this item, 11.5% of CANY, 16.6% of BICY, and 48.5% of ISDRA/ASA respondents had some level of agreement.

Figure 5.4: Respect the Rights of Others

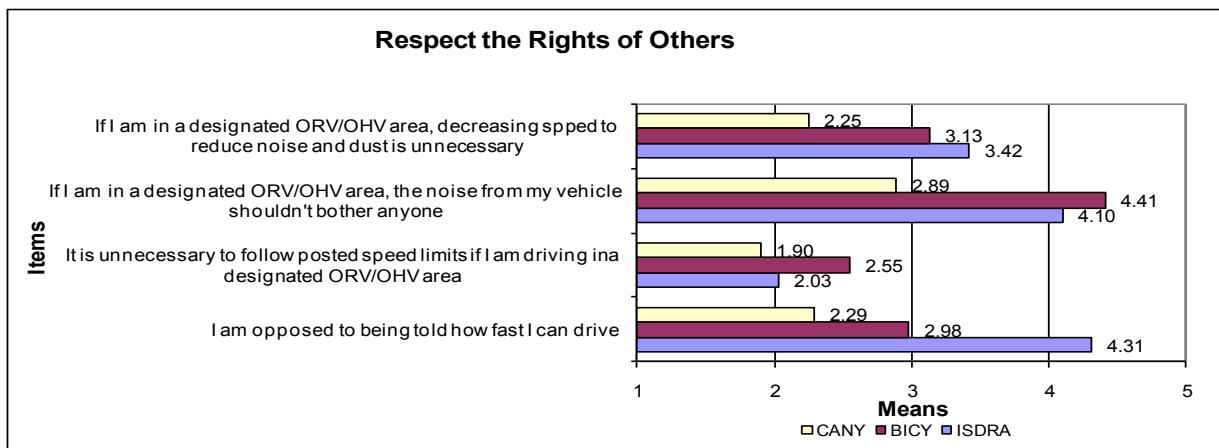


Table 5.12: Means, Standard Deviations, and Percent Distribution of Attitudes: Respect the Rights of Others

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree		(4) Neutral			(7) Strongly Agree	
<i>If I am in a designated ORV/OHV area, decreasing speed to reduce noise and dust is unnecessary²</i>	CANY	377	2.25	1.67	46.4	24.9	10.6	5.6	4.2	4.5	3.7
	BICY	284	3.13	2.04	32.0	18.0	7.7	15.5	9.2	8.8	8.8
	ISDRA	159	3.42	2.13	29.6	11.9	10.1	18.2	8.8	8.2	13.2
<i>If I am in a designated ORV/OHV area, the noise from my vehicle shouldn't bother anyone²</i>	CANY	376	2.89	1.80	28.7	23.1	14.9	14.6	6.6	6.6	5.3
	BICY	282	4.41	2.01	12.1	9.2	8.9	23.8	8.9	15.6	21.6
	ISDRA	158	4.10	1.98	12.7	13.3	10.1	24.7	11.4	10.1	17.7
<i>It is unnecessary to follow posted speed limits if I am driving in a designated ORV/OHV area²</i>	CANY	378	1.90	1.50	57.1	24.1	7.4	3.7	1.6	2.4	3.7
	BICY	284	2.55	2.08	51.1	14.4	7.4	8.8	2.8	5.3	10.2
	ISDRA	159	2.03	1.83	62.9	17.6	2.5	5.0	1.9	2.5	7.5
<i>I am opposed to being told how fast I can drive²</i>	CANY	374	2.29	1.60	46.8	19.5	10.4	11.8	6.4	2.7	2.4
	BICY	284	2.98	1.92	33.8	15.5	8.1	26.1	3.5	4.6	8.5
	ISDRA	159	4.31	1.98	15.1	6.9	6.9	22.6	16.4	15.1	17.0

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Lower mean score reflects attitude more congruent with behavior/TLI principle

Educate yourself

The educate yourself principle was measured with four items that assessed attitudes toward educating oneself with maps and regulations of the respective site, taking OHV/ORV driving courses, and possessing and knowing how to operate appropriate equipment safely. As indicated in Table 5.13 and Figure 5.5, respondents generally agreed at least to some degree with all items except one, where the mean scores were closer to neutral. The means for the item asking if all ORV/OHV drivers should take a skills and safety class before operating a vehicle ranged from 3.23 at CANY to 4.85 at BICY, with the ISDRA mean of 4.08 being closer to neutral. Fifty-two percent of CANY respondents, 20.4% of BICY, and 32.7% of ISDRA/ASA respondents had some level of disagreement with being required to take a driving and safety course before operating a vehicle in XX area. The fourth item listed, which asked if driving and safety courses are a waste of the respondents' time, was worded in such a way that disagreeing indicates they are not a waste of time. The majority of respondents indicated that the courses were NOT a waste of time.

Table 5.13: Means, Standard Deviations, and Percent Distribution of Attitudes: Educate Yourself

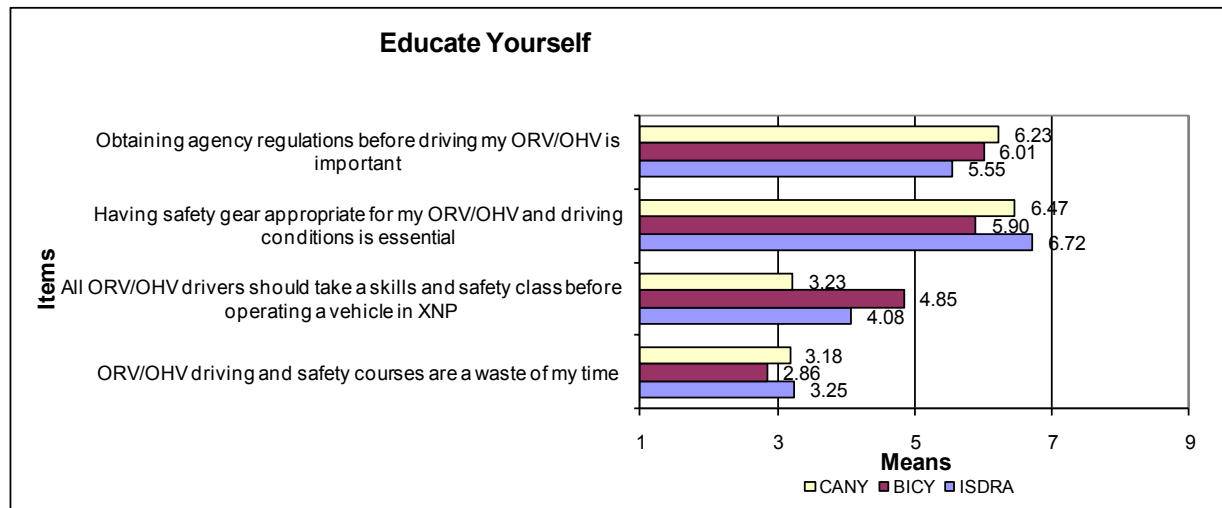
Item	Unit	N	Mean ^{1,2}	SD							
					(1) Strongly Disagree	(2)	(3)	(4) Neutral	(5)	(6)	(7) Strongly Agree
<i>Obtaining agency regulations before driving my ORV/OHV is important²</i>	CANY	376	6.23	1.16	1.1	1.1	1.1	5.1	9.6	26.6	55.6
	BICY	284	6.01	1.48	2.8	1.4	1.8	9.9	11.6	15.5	57.0
	ISDRA	158	5.55	1.50	2.5	2.5	1.9	17.7	15.8	24.7	34.8
<i>Having safety gear appropriate for my ORV/OHV and driving conditions is essential²</i>	CANY	376	6.47	0.86	0.3	0.5	0.3	2.1	6.9	27.9	62.0
	BICY	283	5.90	1.53	2.8	2.1	2.5	12.0	7.8	20.5	52.3
	ISDRA	159	6.72	0.76	0.6	0.0	0.6	1.3	1.9	14.5	81.1
<i>All ORV/OHV drivers should take a skills and safety class before operating a vehicle in XNP²</i>	CANY	378	3.23	1.67	20.4	17.2	14.6	28.3	11.1	3.2	5.3
	BICY	284	4.85	2.09	13.0	5.3	2.1	23.2	10.6	11.3	34.5
	ISDRA	159	4.08	1.88	12.6	11.9	8.2	28.9	13.2	11.3	13.8
<i>ORV/OHV driving and safety courses are a waste of my time³</i>	CANY	374	3.18	1.63	18.7	18.2	20.9	25.1	7.5	5.1	4.5
	BICY	280	2.86	1.95	38.6	12.9	11.1	20.4	5.0	3.2	8.9
	ISDRA	157	3.25	1.86	21.0	22.3	11.5	24.8	5.7	5.7	8.9

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Higher mean score reflects attitude more congruent with behavior/TL! principle

³ - Lower mean score reflects attitude more congruent with behavior/TL! principle

Figure 5.5: Educate Yourself



Avoid sensitive areas

The next TL! principle is avoid sensitive areas, which encourages visitors to remain on designated roads and routes and not disturb wildlife and sensitive habitats such as wetlands and streams. The first three items presented in Table 5.14 and Figure 5.6 were worded so that disagreement reflects support for the principle. The last two items were worded so that agreement reflected support. In general, respondents supported the idea of avoiding sensitive areas with a few exceptions. For example, 19% of CANY, 55.2% of BICY, and 27.9% of ISDRA respondents indicated agreement that

their vehicle does not bother wildlife. Another exception, CANY (71.1%; $m = 5.42$) and BICY (59%; $m = 4.95$) respondents displayed some recognition that there are endangered plants and animals where they drive their ORV/OHV while 29.5% of ISDRA respondents' ($m=3.65$) indicated agreement with the statement.

Table 5.14: Means, Standard Deviations, and Percent Distribution of Attitudes: Avoid Sensitive Areas

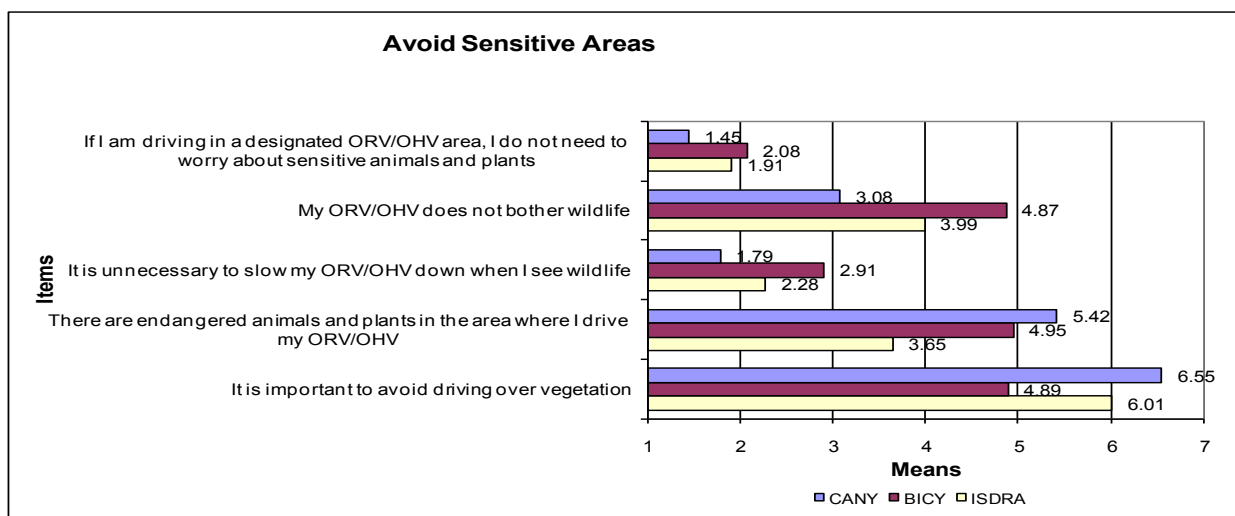
Item	Unit	N	Mean ¹	SD							
					(1) Strongly Disagree	(2)	(3)	(4) Neutral	(5)	(6)	(7) Strongly Agree
<i>If I am driving in a designated ORV/OHV area, I do not need to worry about sensitive animals and plants²</i>	CANY	375	1.45	1.13	76.8	15.7	2.4	1.1	0.8	1.3	1.9
	BICY	284	2.08	1.84	62.7	14.1	4.9	6.0	2.8	1.8	7.7
	ISDRA	159	1.91	1.37	57.9	19.5	6.9	9.4	3.8	1.3	1.3
<i>My ORV/OHV does not bother wildlife²</i>	CANY	373	3.08	1.73	24.1	18.0	18.2	20.6	7.8	7.0	4.3
	BICY	283	4.87	1.88	8.1	3.9	8.5	24.4	11.7	14.5	29.0
	ISDRA	158	3.99	1.69	8.9	11.4	10.8	41.1	9.5	5.7	12.7
<i>It is unnecessary to slow my ORV/OHV down when I see wildlife²</i>	CANY	377	1.79	1.50	62.3	23.9	4.0	2.9	0.3	2.1	4.5
	BICY	284	2.91	2.16	44.7	9.9	6.3	16.9	5.6	3.9	12.7
	ISDRA	157	2.28	1.78	49.0	23.6	5.7	8.3	4.5	3.2	5.7
<i>There are endangered animals and plants in the area where I drive my ORV/OHV³</i>	CANY	373	5.42	1.74	5.4	3.8	2.4	17.4	11.5	22.3	37.3
	BICY	284	4.95	2.05	12.7	3.5	2.1	22.5	10.9	13.7	34.5
	ISDRA	158	3.65	1.84	19.6	12.0	5.7	32.9	14.6	6.3	8.9
<i>It is important to avoid driving over vegetation³</i>	CANY	378	6.55	1.10	1.9	1.3	0.5	0.5	2.6	18.5	74.6
	BICY	281	4.89	1.93	10.0	4.3	6.0	20.3	13.5	17.8	28.1
	ISDRA	159	6.01	1.23	1.3	0.6	2.5	7.5	11.9	32.1	44.0

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Lower mean score reflects attitude more congruent with behavior/TL! principle

³ - Higher mean score reflects attitude more congruent with behavior/TL! principle

Figure 5.6: Avoid Sensitive Areas



Do your part

The final TL! principle is do your part, which reflects visitors desire to leave the recreation area better than they found it. The second item in Table 5.15 and Figure 5.7 was worded so that disagreement shows support for the behavior, which all three samples showed some support for washing their vehicle after driving by disagreeing that it was unnecessary. With only one exception, there was consistent support for the other three behaviors related to *doing your part* with means of at least 6.00 or higher. That exception is ISDRA respondents who were somewhat neutral with a mean of 4.28 when asked if mufflers should be required on all ORV/OHVs. Finally the results indicate that there is high recognition amongst all respondents that breaking regulations may negatively impact future access.

Table 5.15: Means, Standard Deviations, and Percent Distribution of Attitudes: Do Your Part

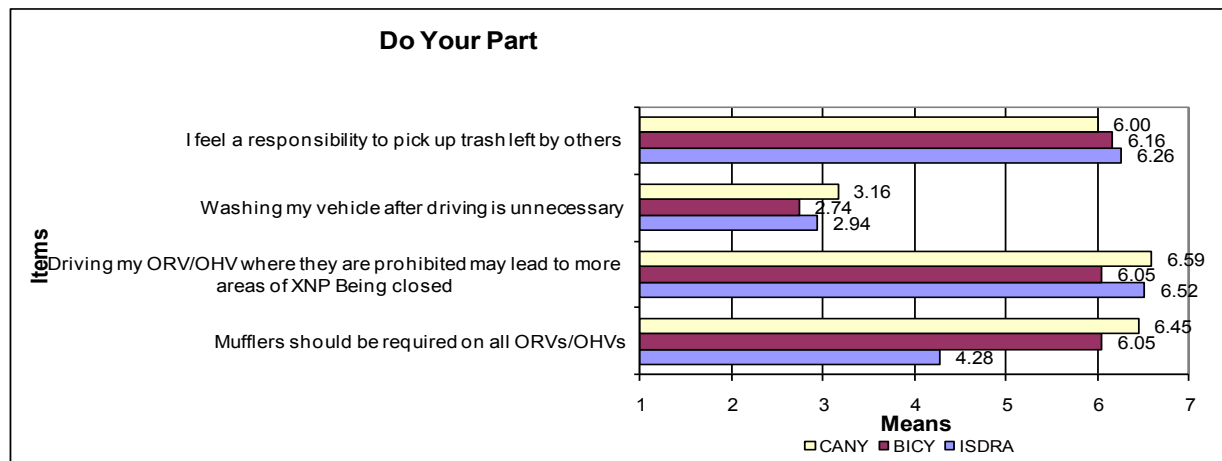
Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree		(4) Neutral			(7) Strongly Agree	
<i>I feel a responsibility to pick up trash left by others</i> ²	CANY	371	6.00	1.37	3.2	1.6	1.3	2.2	14.3	32.3	45.0
	BICY	281	6.16	1.30	2.5	0.4	1.8	4.3	13.5	19.9	57.7
	ISDRA	159	6.26	1.07	0.6	1.9	0.6	0.6	13.2	29.6	53.5
<i>Washing my vehicle after driving is unnecessary</i> ³	CANY	371	3.16	1.83	24.8	19.7	10.2	24.3	8.1	6.5	6.5
	BICY	279	2.74	2.08	48.4	9.7	5.7	16.1	5.7	4.7	9.7
	ISDRA	158	2.94	1.94	36.1	14.6	8.2	22.2	6.3	5.1	7.6
<i>Driving my ORV/OHV where they are prohibited may lead to more areas of XNP being closed</i> ²	CANY	378	6.59	1.09	2.4	0.5	0.3	0.5	3.4	14.8	78.0
	BICY	279	6.05	1.65	5.4	1.8	0.7	8.6	3.9	17.2	62.4
	ISDRA	159	6.52	1.20	2.5	1.3	0.0	1.3	4.4	13.8	76.7
<i>Mufflers should be required on all ORVs/OHVs</i> ²	CANY	377	6.45	1.11	0.8	1.3	1.1	4.8	3.4	18.0	70.6
	BICY	282	6.05	1.64	5.0	2.1	1.1	7.4	7.4	12.8	64.2
	ISDRA	159	4.28	2.15	17.6	9.4	6.3	19.5	10.1	15.7	21.4

¹ - Mean score based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

² - Higher mean score reflects attitude more congruent with behavior/TL! principle

³ - Lower mean score reflects attitude more congruent with behavior/TL! principle

Figure 5.7: Do Your Part



Composite and Global Attitudes

The previous tables and figures included a number of items that were worded so that support for the respective behavior was displayed by respondents' disagreement. To aggregate the items into composite and global measures of attitudes toward the principles of TL!, these items were reverse coded. As displayed in Table 5.16, respondents in all samples on average had some level of agreement with each of the composite measures of attitudes toward the principles of TL!. In a few instances the Canyonlands sample had a noticeably higher level of agreement than Big Cypress and Imperial Sand Dunes respondents. For example, Canyonlands respondents had a mean score above 6.00 for the travel responsibly composite measure and 5.66 for respect the rights of others while Big Cypress and Imperial Sand Dunes average scores were between 4.00 and 5.00 for each.

Table 5.16: Means and Standard Deviations of Composite Measures of TL! Principles

Item	Unit	N	Mean ^{1,2}	SD
Travel Responsibly - Safety	CANY	365	5.20	1.01
	BICY	268	4.73	1.38
	ISDRA	158	5.36	1.11
Travel Responsibly	CANY	371	6.28	0.81
	BICY	257	4.43	1.56
	ISDRA	155	4.50	1.39
Educate	CANY	371	5.19	0.91
	BICY	273	5.48	1.26
	ISDRA	156	5.27	1.05
Avoid Sensitive Areas	CANY	363	5.94	0.78
	BICY	274	4.81	1.16
	ISDRA	155	5.10	0.85
Do Your Part	CANY	363	5.97	0.79
	BICY	265	5.89	0.91
	ISDRA	158	5.53	0.87
Respect the Rights of Others	CANY	371	5.66	1.07
	BICY	279	4.74	1.25
	ISDRA	158	4.54	1.32
¹ - Means based on a 7-point Likert scale (1=strongly disagree, 4=neutral, 7=strongly agree)				
² - Higher values reflect stronger intention to comply with LNT practices				

The global measure of attitudes toward the TL! principles aggregated all 24 items. As displayed in Table 5.17 all three samples had a mean score greater than 5.00 for the global measure of attitudes toward the principles of TL!.

Table 5.17: Means and Standard Deviations of Global Measure of TL! Principles

Item	Unit	N	Mean	SD
Global Attitudes	CANY	337	5.73	0.55
	BICY	222	5.08	0.86
	ISDRA	145	5.04	0.74

Behavioral Intentions

Eleven items were used to assess respondents' behavioral intentions by asking them the extent to which they intend on doing each action on their next ORV/OHV outing to the respective site. The items were measured on a scale of 1 = "Definitely DO NOT Intend to" to 7 = "Definitely DO Intend to." In general, respondents from all three samples intended to do many of the TL! supportive actions with positively worded items mostly receiving mean scores above 5.00 (Table 5.18). Negatively worded items (non TL! actions) generally resulted in mean scores indicating respondents would not behave in such a way. For example, the item 'ride off designated trails (areas)' had mean scores indicating respondents did not intend to ride off trails. Finally, while Canyonlands ($m = 5.60$) and Big Cypress ($m = 5.34$) respondents somewhat intended to seek information about endangered plants and animals in the respective site, Imperial Sand Dunes ($m = 4.17$) were more neutral with 20.6% indicating some level of disagreement.

Table 5.18: Means, Standard Deviations, and Percent Distribution of Behavioral Intentions

Item	Unit	N	Mean ¹	SD	(1) Definitely DO NOT intend to		(4) Neutral			(7) Definitely DO intend to	
<i>Pick up trash left by others</i>	CANY	376	6.19	0.98	0.0	0.0	0.8	6.9	14.4	28.7	49.2
	BICY	285	5.99	1.33	1.8	0.0	3.2	9.8	14.4	19.6	51.2
	ISDRA	161	6.18	1.07	0.0	0.6	1.2	6.2	17.4	20.5	54.0
<i>Drive only on designated trails (areas) in XNP</i>	CANY	374	6.90	0.32	0.0	0.0	0.0	0.0	0.3	9.9	89.8
	BICY	285	6.10	1.51	3.2	1.8	1.8	9.5	5.3	16.1	62.5
	ISDRA	160	6.57	0.87	0.0	0.6	0.6	3.8	3.8	18.8	72.5
<i>Slow down around other ORVs/OHVs</i>	CANY	375	6.72	0.65	0.0	0.3	0.0	1.3	4.0	14.9	79.5
	BICY	284	6.67	0.78	0.0	0.0	0.4	4.2	4.6	10.2	80.6
	ISDRA	161	6.49	0.87	0.0	0.0	0.0	6.2	6.8	18.6	68.3
<i>Wash my vehicle after visiting XNP</i>	CANY	372	5.44	1.66	3.5	3.2	1.9	24.2	11.6	15.3	40.3
	BICY	281	5.81	1.59	3.2	1.4	1.4	18.9	8.9	12.1	54.1
	ISDRA	159	5.48	1.78	5.0	3.8	3.8	16.4	10.7	17.0	43.4
<i>Take an ORV/OHV safe operator course</i>	CANY	376	2.39	1.41	39.9	18.9	9.3	27.7	2.9	0.8	0.5
	BICY	279	3.44	2.28	36.2	7.2	3.6	25.4	3.6	5.4	18.6
	ISDRA	161	2.50	1.82	50.3	9.3	6.2	21.1	5.0	3.7	4.3
<i>Approach wildlife to get a better view</i>	CANY	375	2.61	1.58	33.9	22.4	11.2	21.3	6.1	2.9	2.1
	BICY	285	3.94	1.99	18.9	7.7	7.7	30.5	13.0	5.6	16.5
	ISDRA	159	2.70	1.75	39.0	13.8	8.2	28.3	3.1	2.5	5.0
<i>Ride off designated trails (areas)</i>	CANY	376	1.26	0.99	89.1	6.9	0.8	0.5	0.0	0.5	2.1
	BICY	284	2.31	1.94	60.2	8.8	3.9	12.0	3.5	5.6	6.0
	ISDRA	159	1.52	1.18	76.7	10.7	3.1	6.3	0.6	1.3	1.3
<i>Pack out my group's trash</i>	CANY	376	6.93	0.60	0.8	0.3	0.0	0.0	0.0	1.3	97.6
	BICY	281	6.87	0.63	0.7	0.0	0.0	0.7	1.1	4.6	92.9
	ISDRA	161	6.83	0.68	0.6	0.0	0.0	1.9	1.2	5.0	91.3
<i>Run over vegetation</i>	CANY	376	1.28	0.86	83.5	12.0	1.6	1.1	0.3	0.8	0.8
	BICY	280	2.33	1.69	52.5	11.8	3.2	23.9	3.6	1.4	3.6
	ISDRA	161	1.68	1.33	69.6	14.3	4.3	7.5	0.6	1.9	1.9
<i>Learn all rules/regulations before driving at XNP</i>	CANY	376	6.11	1.44	2.7	2.1	1.9	6.4	7.4	20.7	58.8
	BICY	280	6.26	1.38	2.5	1.4	0.0	9.3	5.7	12.1	68.9
	ISDRA	161	5.76	1.54	1.2	3.7	2.5	17.4	9.9	15.5	49.7
<i>Seek information about the endangered animals and plants in XNP</i>	CANY	375	5.60	1.40	1.9	1.6	2.4	16.3	18.9	24.8	34.1
	BICY	280	5.34	1.74	5.7	1.4	3.6	23.9	12.1	14.3	38.9
	ISDRA	160	4.17	1.94	12.5	12.5	5.6	30.6	8.8	13.8	16.3

¹ - Mean based on a 7-point Likert scale (1=Definitely DO NOT intend to, 4=Neutral, 7=Definitely Do intend to)

The items in Table 5.18 were aggregated to a global measure of behavioral intentions, presented in Table 5.19. Prior to aggregation the following three items were reverse coded: approach wildlife to get a better view, ride off designated trails (areas), and run over vegetation because these actions are unsupportive of TL! principles. As displayed in Table 5.19, all three samples had a mean score for behavioral intentions greater than 5.50.

Table 5.19: Mean and Standard Deviation of Global Behavioral Intentions

Item	Unit	N	Mean	SD
Global Behavioral Intentions	CANY	369	5.92	0.51
	BICY	259	5.63	0.79
	ISDRA	153	5.64	0.62

OHV/ORV Influences and Experiences

The influences and experiences section of the questionnaire asked respondents to indicate their level of agreement with statements that measured the following: social norms, early life experiences, attitudes toward NPS/BLM, volunteerism, and philanthropy, and ethic. Each dimensions and respective items are presented below. All items were asked on a scale of 1 = Strongly Disagree to 7 = Strongly Agree.

Norms

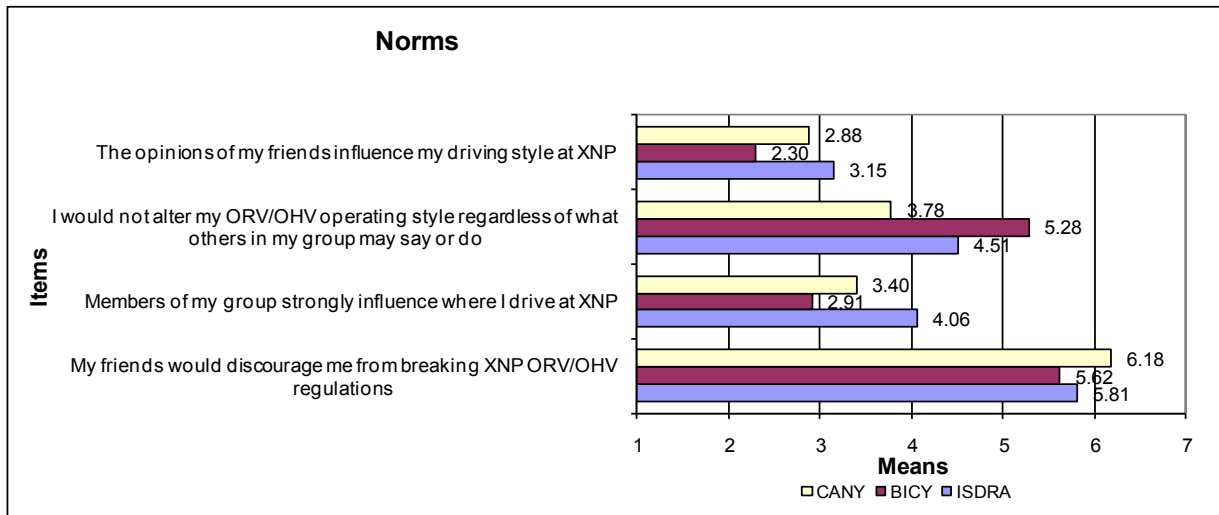
Four items were used to measure the influence of peer pressure and social norms on performing TLI recommended behaviors. Comparing mean scores of the three samples on the items reveals fairly mixed results (Table 5.20 and Figure 5.8). For example, Canyonlands respondents had a mean score ($m = 3.78$) below neutral for the item “I would not alter my driving style regardless of what others in their group say or do”, while Imperial Sand Dunes ($m = 4.51$) respondents were slightly above neutral and Big Cypress ($m = 5.28$) agreed. In other words, 48.3% of CANY respondents would alter their driving style if someone in their group requested it, while only 17.6% of BICY and 27.7% of ISDRA respondents indicated that they would alter their driving style. When examining the influence of members of a group and their influence on where a person drives, 47.2% of CANY and 57.2 % of BICY respondents disagreed that group members had an influence while 30% of ISDRA respondents disagreed. Finally, the majority of individuals (CANY 60%; BICY 71.5%; ISDRA 50%) from each sample indicated that the opinions of friends had little influence on their driving style.

Table 5.20: Means, Standard Deviations, and Percent Distribution of Influences and Experiences: Norms

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree	(2)	(3)	(4) Neutral	(5)	(6)	(7) Strongly Agree
<i>The opinions of my friends influence my driving style at XNP</i>	CANY	375	2.88	1.99	40.0	15.5	4.0	16.5	10.4	8.0	5.6
	BICY	284	2.30	1.92	60.6	8.1	2.8	15.1	3.2	3.5	6.7
	ISDRA	162	3.15	1.86	30.2	15.4	4.3	24.1	13.6	9.3	3.1
<i>I would not alter my ORV/OHV operating style, regardless of what others in my group may say or do</i>	CANY	375	3.78	2.27	24.0	14.4	9.9	16.0	3.7	10.9	21.1
	BICY	285	5.28	2.04	8.4	6.0	3.2	20.0	4.6	10.2	47.7
	ISDRA	162	4.51	2.03	12.3	8.6	6.8	24.1	6.8	19.1	22.2
<i>Members of my group strongly influence where I drive at XNP</i>	CANY	373	3.40	1.97	25.7	16.1	5.4	25.2	8.6	11.3	7.8
	BICY	285	2.91	2.06	42.8	10.9	3.5	20.7	8.8	4.2	9.1
	ISDRA	162	4.06	1.89	17.3	7.4	5.6	25.9	18.5	16.0	9.3
<i>My friends would discourage me from breaking XNP ORV/OHV regulations</i>	CANY	372	6.18	1.28	2.4	0.8	0.5	7.3	5.4	28.8	54.8
	BICY	284	5.62	1.89	8.5	2.5	1.8	10.9	9.2	16.5	50.7
	ISDRA	162	5.81	1.63	5.6	1.2	1.9	8.0	13.0	22.2	48.1

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Figure 5.8: Norms



Early life experiences

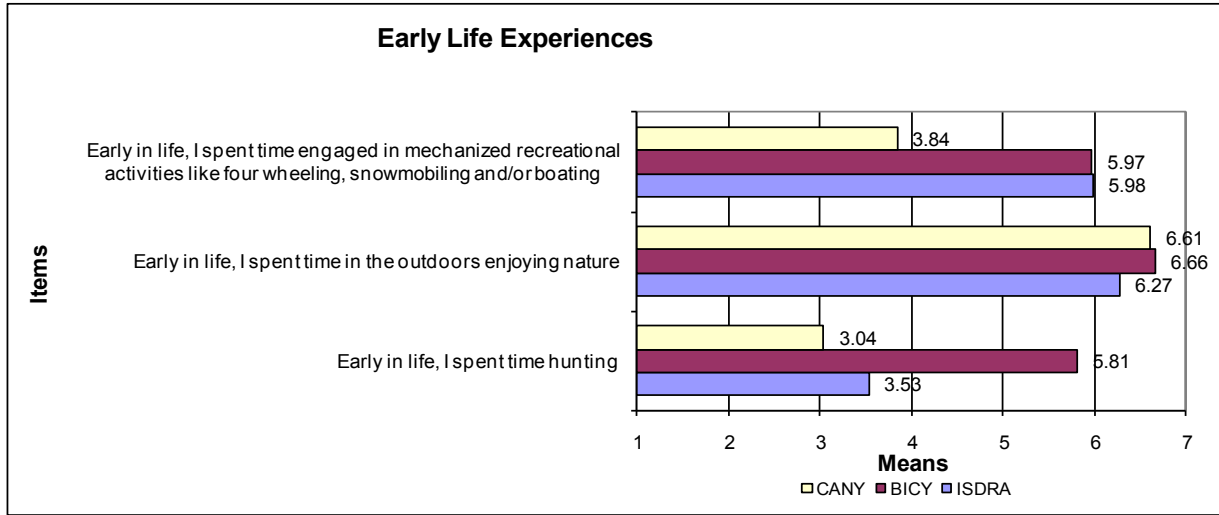
Three items were used to measure early life experiences. As portrayed in Table 5.21 and Figure 5.9, there were inconsistent results when comparing the samples, except for spending time outdoors enjoying nature. All three samples resulted in mean scores above 6.00 when asked about spending time outdoors enjoying nature. When asked about spending time engaged in mechanized recreational activities (e.g., four wheeling, snowmobiling, boating) both Big Cypress and Imperial Sand Dunes respondents had means close to 6.00 while Canyonlands was below the neutral score of 4.00. 79.6% of BICY respondents agreed that they spent time hunting early in life while only 33.5% of CANY and 39.4% of ISDRA respondents spent time hunting early in life.

Table 5.21: Means, Standard Deviations, and Percent Distribution of Influences and Experiences: Early Life Experiences

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree		(4) Neutral			(7) Strongly Agree	
<i>Early in life, I spent time engaged in mechanized recreational activities like four wheeling, snowmobiling and/or boating</i>	CANY	376	3.84	2.46	32.2	10.1	5.1	5.6	11.4	12.2	23.4
	BICY	283	5.97	1.77	7.4	0.7	2.5	5.3	8.1	13.1	62.9
	ISDRA	161	5.98	1.73	6.2	3.1	0.6	4.3	9.3	15.5	60.9
<i>Early in life, I spent time in the outdoors enjoying nature</i>	CANY	374	6.61	0.97	0.8	0.8	0.8	2.1	4.0	12.8	78.6
	BICY	285	6.66	1.08	1.8	1.1	0.7	1.4	1.8	7.7	85.6
	ISDRA	159	6.27	1.44	3.8	1.9	0.0	3.8	5.7	18.2	66.7
<i>Early in life, I spent time hunting</i>	CANY	376	3.04	2.45	49.7	10.6	1.9	4.3	8.0	8.2	17.3
	BICY	284	5.81	2.09	11.6	2.8	1.1	4.9	4.6	7.0	68.0
	ISDRA	160	3.53	2.56	41.9	7.5	4.4	6.9	5.0	10.6	23.8

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Figure 5.9: Early Life Experiences



Attitudes toward NPS/BLM

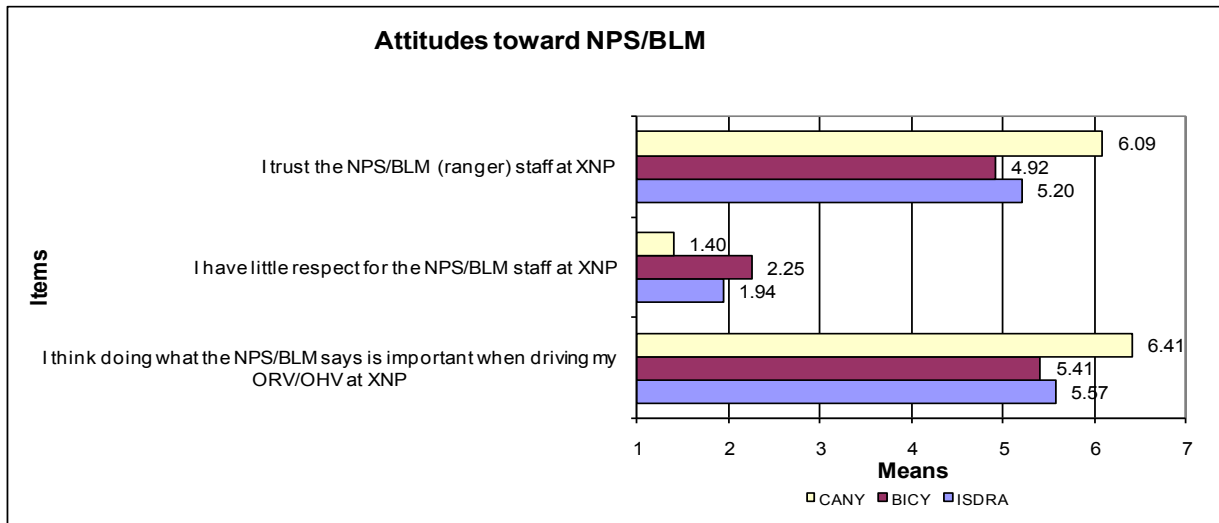
Three items measured respondents’ attitudes toward the NPS/BLM (Table 5.22 and Figure 5.10). When asked if they have little respect for NPS/BLM staff all three samples’ mean scores were 2.25 or below, indicating they have respect for the staff. When asked if they trust the NPS/BLM the average scores ranged from 4.92 in Big Cypress to 6.09 in Canyonlands. All three groups ranked I think doing what the NPS/BLM says is important when driving my ORV/OHV above 5.00.

Table 5.22: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Attitudes toward NPS/BLM

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree		(4) Neutral			(7) Strongly Agree	
<i>I trust the NPS/BLM (ranger) staff at XNP</i>	CANY	376	6.09	1.26	1.3	1.3	1.3	8.0	9.3	28.2	50.5
	BICY	283	4.92	2.13	14.1	4.9	2.5	17.3	9.5	17.7	33.9
	ISDRA	161	5.20	1.70	5.0	3.7	5.6	18.6	14.3	24.2	28.6
<i>I have little respect for the NPS staff at XNP</i>	CANY	375	1.40	0.91	76.8	13.6	4.8	3.2	1.1	0.0	0.5
	BICY	285	2.25	1.90	61.1	9.5	3.5	11.6	4.2	4.2	6.0
	ISDRA	159	1.94	1.41	56.0	21.4	5.0	12.6	2.5	0.0	2.5
<i>I think doing what the NPS/BLM says is important when driving my ORV/OHV at XNP</i>	CANY	373	6.41	0.95	0.5	0.3	0.8	2.9	8.6	25.5	61.4
	BICY	285	5.41	1.91	8.1	2.1	4.9	15.8	9.5	14.4	45.3
	ISDRA	162	5.57	1.51	2.5	3.7	1.2	16.0	14.8	27.2	34.6

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Figure 5.10: Attitudes toward NPS/BLM



Volunteering

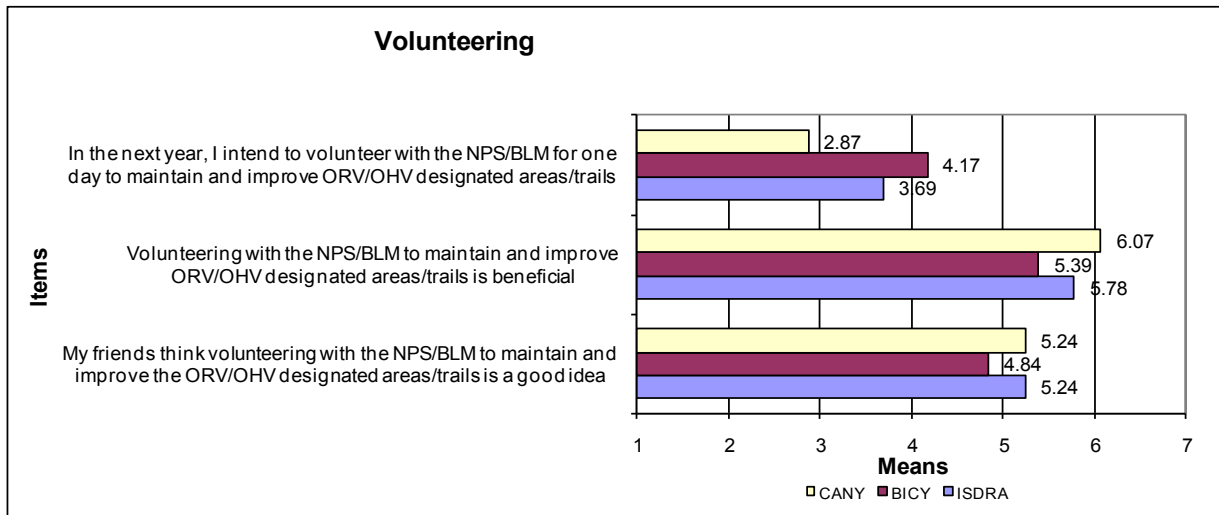
Volunteering was measured with three items (Table 5.23 and Figure 5.11). Although all groups agreed volunteering to maintain and improve ORV/OHV designated areas/trails is beneficial, only Big Cypress respondents resulted in a mean above neutral (4.00) when asked if they intend to volunteer for one day in the next 12 months. Eleven percent of CANY, 36.3% of BICY, and 27.8% of ISDRA/ASA respondents indicated agreement that they intended to volunteer for one day in the next year.

Table 5.23: Means, S.D., and % Distribution of Influences and Experiences: Volunteering

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree	(2)	(3)	(4) Neutral	(5)	(6)	(7) Strongly Agree
<i>In the next year, I intend to volunteer with the NPS/BLM for one day to maintain and improve ORV/OHV designated areas/trails</i>	CANY	375	2.87	1.58	28.5	18.9	7.7	34.1	6.1	1.9	2.7
	BICY	282	4.17	2.10	18.8	7.1	1.8	35.1	8.2	5.7	23.4
	ISDRA	162	3.69	1.76	18.5	9.9	5.6	38.3	13.0	8.0	6.8
<i>Volunteering with the NPS/BLM to maintain and improve ORV/OHV designated areas/trails is beneficial</i>	CANY	374	6.07	1.13	0.8	0.8	0.0	9.1	12.8	31.0	45.5
	BICY	283	5.39	1.81	6.0	3.5	1.8	21.9	11.7	11.7	43.5
	ISDRA	161	5.78	1.28	0.6	1.2	1.2	16.8	16.1	24.8	39.1
<i>My friends think volunteering with the NPS/BLM to maintain and improve the ORV/OHV designated areas/trails is a good idea</i>	CANY	372	5.24	1.40	2.2	1.1	1.1	32.8	15.9	22.8	24.2
	BICY	285	4.84	1.85	8.8	3.5	2.8	35.1	8.4	13.0	28.4
	ISDRA	161	5.24	1.46	2.5	1.9	3.7	25.5	18.0	24.2	24.2

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Figure 5.11: Volunteering



Philanthropy.

Four items were used to measure philanthropy (Table 5.24 and Figure 5.12). All three samples resulted in mean scores above 5.00 when asked if their friends would think donating money for improvement and conservation is a good idea, as well as if respondents themselves think donating money for improvement and conservation is worthwhile. However, all groups were fairly neutral when asked if they intend to donate \$25-50 in the next year.

Figure 5.12: Philanthropy

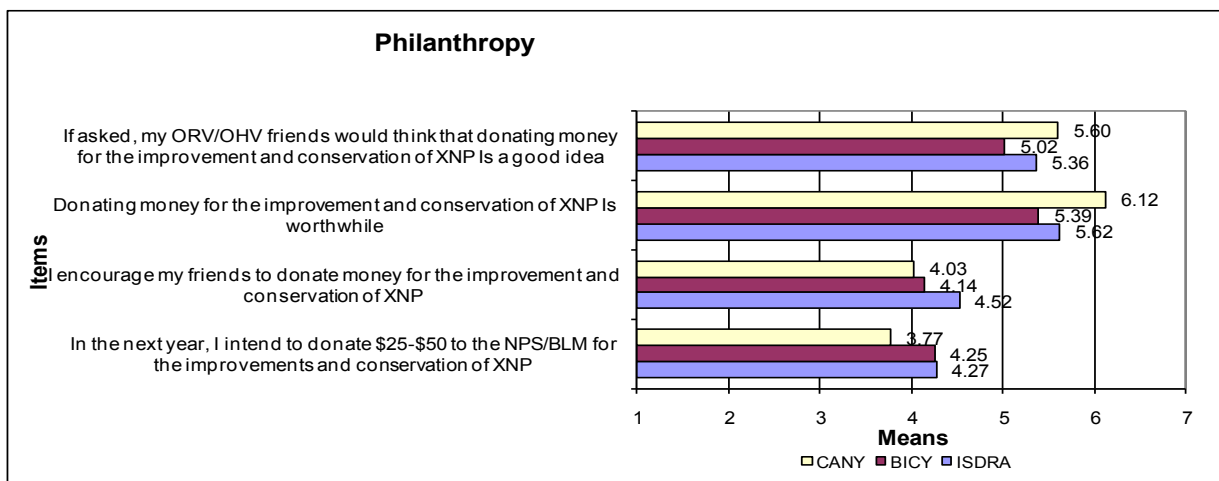


Table 5.24: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Philanthropy

Item	Unit	N	Mean ¹	SD	(1) Strongly Disagree			(4) Neutral			(7) Strongly Agree	
<i>If asked, my ORV/OHV friends would think that donating money for the improvement and conservation of XNP is a good idea</i>	CANY	373	5.60	1.30	0.5	1.1	1.6	22.5	16.4	24.7	33.2	
	BICY	283	5.02	1.87	7.1	4.2	3.5	31.1	7.1	12.4	34.6	
	ISDRA	162	5.36	1.57	4.3	1.9	3.1	19.1	15.4	27.8	28.4	
<i>Donating money for the improvement and conservation of XNP is worthwhile</i>	CANY	375	6.12	1.08	0.3	0.5	0.5	8.3	15.5	26.1	48.8	
	BICY	284	5.39	1.72	5.3	1.4	2.8	24.3	13.4	10.9	41.9	
	ISDRA	162	5.62	1.52	3.1	1.9	1.9	14.8	19.8	18.5	40.1	
<i>I encourage my friends to donate money for the improvement and conservation of XNP</i>	CANY	372	4.03	1.68	12.1	6.7	7.5	42.5	11.6	9.9	9.7	
	BICY	284	4.14	1.88	15.5	4.9	2.5	46.5	6.0	7.4	17.3	
	ISDRA	162	4.52	1.83	8.0	8.6	3.1	37.0	11.7	9.3	22.2	
<i>In the next year, I intend to donate \$25-\$50 to the NPS for the improvement and conservation of XNP</i>	CANY	372	3.77	1.84	16.9	11.3	5.1	40.3	8.9	5.4	12.1	
	BICY	280	4.25	2.08	18.9	3.9	3.6	35.7	5.0	10.4	22.5	
	ISDRA	162	4.27	1.95	14.8	6.8	3.7	34.6	10.5	11.1	18.5	

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Volunteering and Donating to Site.

Respondents were asked three items regarding their past participation in volunteering and donating for clean-up and trail maintenance and protection in the past 12 months (Table 5.25). The actual numbers of respondents who volunteered to do trail maintenance and/or participated in an organized clean-up were small and results should be interpreted with caution. However, the percentage of respondents that donated money for protection/maintenance ranged from 10.7% at BICY to 34.4% at ISDRA. For those reporting a donated dollar amount, the average ranged from \$53.63 at CANY to \$101.17 at BICY. ISDRA visitors (ASA members) donated an average of \$87.81 in the past 12 months.

Table 5.25: Philanthropy, Maintenance, and Cleanup Activities and Contributions

<i>Please indicate if you have done any of the following in the past 12 months.</i>								
	Unit		N	Percent		N	Mean	SD
Volunteered to do trail maintenance (If yes, how many days?)	CANY	No/NR	376	97.2				
		Yes	11	2.8	If yes -->	11 ¹	8.00	9.92
	BICY	No/NR	270	92.8				
		Yes	21	7.2	If yes -->	17 ¹	7.29	7.24
	ISDRA	No/NR	151	92.6				
		Yes	12	7.4	If yes -->	11 ¹	1.45	0.52
Participated in an organized clean-up (If yes, how many days?)	CANY	No/NR	379	97.9				
		Yes	8	2.1	If yes -->	8 ¹	5.63	8.38
	BICY	No/NR	272	93.5				
		Yes	19	6.5	If yes -->	17 ¹	9.06	10.65
	ISDRA	No/NR	117	71.8				
		Yes	46	28.2	If yes -->	43	2.91	6.22
Donated money for protection/maintenance (If yes, dollar amount?)	CANY	No/NR	342	88.4				
		Yes	45	11.6	If yes -->	40	53.63	53.25
	BICY	No/NR	260	89.3				
		Yes	31	10.7	If yes -->	30	101.17	179.25
	ISDRA	No/NR	107	65.6				
		Yes	56	34.4	If yes -->	48	87.81	77.13

¹ - Caution should be exercised in interpreting this mean value as 20 or less individuals responded to this question

Ethic: Attitudes toward the outcome of TL! recommended behaviors.

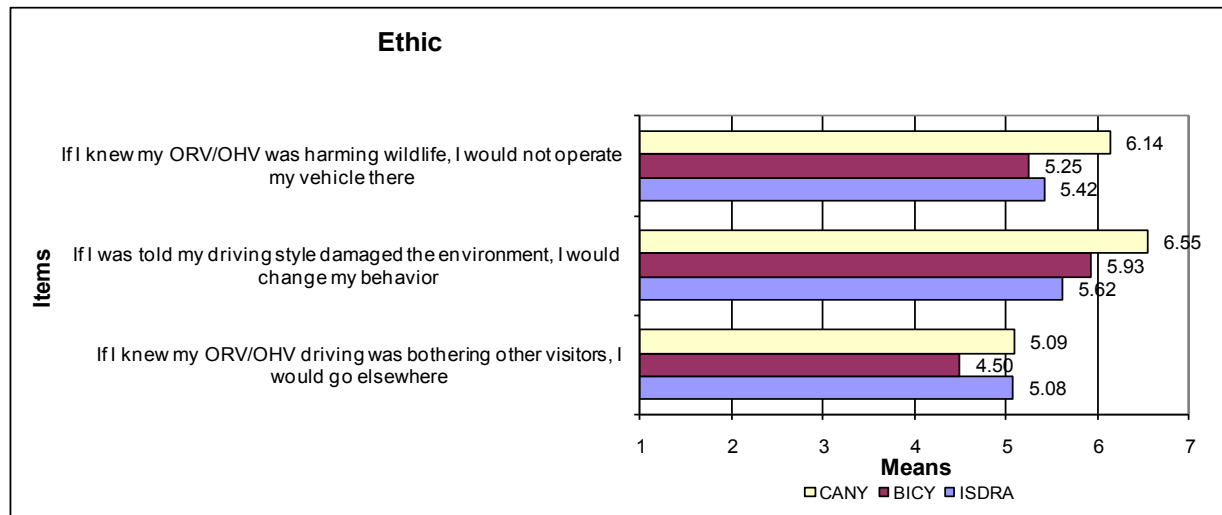
The final dimension of influence and experiences was ethic, measured with three items (Table 5.26 and Figure 5.13). All three samples agreed they would not operate their vehicle in a location if they knew their ORV/OHV was harming wildlife. All respondents had a higher level of agreement when asked if they would change their behavior if they were told their driving style damaged the environment. The three samples were above neutral when asked if they would go elsewhere if they knew their driving was bothering other visitors.

Table 5.26: Means, Standard Deviations, and Percent Distributions of Influences and Experiences: Ethic

Item	Unit	N	Mean ¹	SD							
					(1) Strongly Disagree			(4) Neutral			(7) Strongly Agree
<i>If I knew my ORV/OHV was harming wildlife, I would not operate my vehicle there</i>	CANY	375	6.14	1.23	0.3	2.7	2.4	4.8	9.6	27.5	52.8
	BICY	279	5.25	1.87	5.7	5.7	2.9	22.9	10.4	10.8	41.6
	ISDRA	161	5.42	1.63	3.7	3.1	2.5	23.0	7.5	26.7	33.5
<i>If I was told my driving style damaged the environment, I would change my behavior</i>	CANY	375	6.55	0.73	0.0	0.0	0.3	2.7	4.5	26.7	65.9
	BICY	286	5.93	1.56	3.5	2.1	1.7	9.8	11.9	15.4	55.6
	ISDRA	162	5.62	1.58	4.3	1.9	1.9	14.2	13.0	27.2	37.7
<i>If I knew my ORV/OHV driving was bothering other visitors, I would go elsewhere</i>	CANY	374	5.09	1.68	4.3	4.5	7.8	18.2	17.4	22.5	25.4
	BICY	283	4.50	2.18	17.7	6.4	2.5	24.0	8.1	13.8	27.6
	ISDRA	162	5.08	1.79	6.2	5.6	5.6	17.3	14.2	24.7	26.5

¹ - Mean based on a 7-point Likert scale (1=Strongly Disagree, 4=Neutral, 7=Strongly Agree)

Figure 5.13: Ethic



Composite Measures of Influences and Experiences

After reverse coding appropriate items composite measures of influences and experiences were generated. As displayed in Table 5.27, all composite measures resulted in means over 4.00. The norms measure was consistently the lowest with means of 4.03 in Big Cypress, 4.06 in Canyonlands, and 4.38 in Imperial Sand Dunes.

Table 5.27: Means and Standard Deviations of Composite Measures of Influences and Experiences

Item	Unit	N	Mean ¹	SD
Norms	CANY	369	4.06	0.92
	BICY	282	4.03	0.99
	ISDRA	162	4.38	0.93
Early Life Experiences	CANY	374	4.50	1.47
	BICY	280	6.14	1.21
	ISDRA	156	5.26	1.44
Attitudes Towards the NPS/BLM	CANY	373	6.36	0.84
	BICY	280	5.36	1.72
	ISDRA	158	5.61	1.26
Volunteering	CANY	370	4.72	1.02
	BICY	278	4.81	1.60
	ISDRA	160	4.90	1.17
Philanthropy	CANY	368	4.87	1.10
	BICY	278	4.73	1.60
	ISDRA	162	4.94	1.44
Ethic	CANY	374	5.93	0.92
	BICY	276	5.25	1.41
	ISDRA	161	5.38	1.24

¹ - Means based on a 7-point Likert scale (1=strongly disagree, 4=neutral, 7=strongly agree)

SECTION VI –

CORRELATIONS BETWEEN ATTITUDES AND BEHAVIORAL INTENTIONS

Introduction

To investigate why some visitors intend to follow TL! recommended practices and other do not we explored the relationship between a range of potentially important respondent characteristics and attitudes toward TL! practices and intentions to perform TL! practices. This section of the report provides an examination of these relationships between study variables. The results are presented in correlation matrices where significant relationships are asterisked. The correlations matrices are presented in Tables 6.1 through 6.5. The matrices are designed to examine relationships between the two global measures, TL! attitudes and TL! behavioral intentions, and theoretically important variables.

Demographics – Attitude and Behavioral Intentions

Age correlated significantly with TL! attitudes in the Canyonlands sample (Table 6.1). The correlation was positive, which indicated as age increased their attitudes or agreement with TL! principles increased.

Trip Characteristics – Attitude and Behavioral Intentions

The number of trips to the respective site in 2009 was significantly correlated with both attitudes and behavioral intentions for the Big Cypress sample (Table 6.1). Both correlations were negative, indicating that as the number of trips increased their attitudes or agreement with TL! principles and behavioral intentions decreased.

The number of OHV/ORVs normally in a group was significantly correlated with behavioral intentions for Canyonlands and both attitudes and intentions for Big Cypress. The negative correlation for Canyonlands indicated as the number of OHV/ORVs in the group increased, their behavioral intentions decreased (not a good thing). Both correlations for Big Cypress were positive, indicating as the number of OHV/ORVs increased, their attitudes and intentions became more favorable.

For the Big Cypress sample, length of stay in days was significantly and negatively correlated with attitudes and behavioral intentions. Interpreted, this indicates the longer the respondents stayed at the Preserve the more their attitudes and intentions toward TL! principles diminished. The length of stay in hours for Big Cypress was also significantly and negatively correlated with behavioral intentions. The interpretation is the same as for length of stay in days.

Experience Use History – Attitude and Behavioral Intentions

For the Big Cypress sample, the number of days operating an OHV/ORV in the past 12 months was significantly and negatively correlated with global measure of behavioral intentions (Table 6.1). The interpretation of the relationship is that as the number of days operating an OHV/ORV in the past 12 months increased a person’s global intentions to perform TL! behaviors decreased. For Canyonlands and Big Cypress, there was a significant and negative relationship between the self reported OHV/ORV skill level and global TL! attitudes and behavioral intentions. Interpreted this means as the OHV/ORV skill level increases attitudes and behavioral intentions decreased. In other words, individuals that reported high levels of skill, had less positive attitudes toward TL! recommended actions and decreased intentions to perform these actions.

Early Life Experiences

There was a significant and negative relationship between early life experiences and global attitudes for Canyonlands and Big Cypress (Table 6.1). Interpreted, as early life experiences with motorized recreation and hunting increased, global positive attitudes toward TL! actions decreased.

Table 6.1: Correlations among Global Attitudes and Behavioral Intentions with Age, Trip Characteristics, Experience Use History, and Early Life Experiences

Category	Variables		CANY		BICY		ISDRA	
			Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions
Demographics	Age	Correlation	.137*	ns ¹	ns ¹	ns ¹	ns ¹	ns ¹
		N	334					
Trip Characteristics	Number of trips to XNP in 2009	Correlation	ns ¹	ns ¹	-.213**	-.123*	ns ¹	ns ¹
		N			221	257		
	Number of OHV/ORVs normally in group	Correlation	ns ¹	-.131	.150*	.173**	ns ¹	ns ¹
		N		365	218	254		
	Number of individuals normally in group	Correlation	ns ¹	ns ¹	ns ¹	ns ¹	ns ¹	ns ¹
		N						
Length of Stay (days)	Correlation	ns ¹	ns ¹	-.232**	-.219**	ns ¹	ns ¹	
	N			194	226			
Length of Stay (hours)	Correlation	ns ¹	ns ¹	ns ¹	-.219**	ns ¹	ns ¹	
	N				144			
Experience Use History	Number of days operating OHV/ORV in past 12 months	Correlation	ns ¹	ns ¹	ns ¹	-.159*	ns ¹	ns ¹
		N				247		
	Self reported OHV/ORV skill level	Correlation	-.202**	-.138**	-.284**	-.201**	ns ¹	ns ¹
		N	326	357	219	255		
Early Life Experiences	Early Life Experiences (Composite)	Correlation	-.143**	ns ¹	-.165*	ns ¹	ns ¹	ns ¹
		N	334		219			

* p<.05; ** p<.01

¹ - nonsignificant correlation

Diffusion of Innovations – Individual Decision Process

Table 6.2 presents the correlations between self-reported knowledge of TL!, attitudes toward TL! actions, and intentions to perform TL! behaviors. This demonstrates the relationship between awareness, knowledge, attitudes, and intentions that in DIT represents the individual decision process. At the individual level, innovations become accepted if there is a strong positive relationship between knowledge, attitudes, intentions, and finally behaviors. The self reported current knowledge of TL! was significantly correlated with global attitudes for Canyonlands and Imperial Sand Dunes. For Canyonlands the relationship was negative, indicating as the self-reported knowledge increased attitudes toward TL! decreased. The positive relationship for Imperial Sand Dunes means as self-reported knowledge increased, global attitudes increased. Global measures of attitudes toward TL! principles were positively correlated with intentions to perform TL! behaviors in all three samples. This means that the more positive a person’s attitude toward TL! principles, the stronger the intention to perform TL! recommended behaviors.

Table 6.2: Correlations between self-reported knowledge of TL!, attitudes toward TL! actions, and intentions to perform TL! behaviors

Variables		CANY		BICY		ISDRA	
		Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions
Self-reported current knowledge of TL!	Correlation	-.131*	ns ¹	ns ¹	ns ¹	.497**	ns ¹
	N	250				29	
Global Composite Measure of TL! Attitudes	Correlation	--	.598**	--	.707**	--	.542**
	N		333		210		99
Global Composite Measure of TL! Behavioral Intentions	Correlation	.598**	--	.707**	--	.542**	--
	N	333		210		99	

* p<.05; ** p<.01

¹ - nonsignificant correlation

Communication Sources

Several of the sources of TL! information were significantly and positively related to global measure of attitudes and behavioral intentions (Table 6.3). Magazines or books were a source of TL! information that was significantly correlated with global attitudes and behavioral intentions for all three samples. The interpretation of the relationship is that as the amount of information learned about TL! from books or magazines increased attitudes and behavioral intentions became

more aligned with TL! principles. Education materials and media provided by the NPS and BLM also had a consistent positive relationship with TL! friendly attitudes and behavioral intentions. The rest of the significant relationships in Table 6.3 are also interpreted in the same manner.

Table 6.3: Correlations among Global Attitudes and Behavioral Intentions with Diffusion Sources

Category	Variables		CANY		BICY		ISDRA	
			Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions
	NPS/BLM educational talk/video	Correlation N	.418** 95	.401** 104	.297* 61	.248* 71	ns ¹	ns ¹
	OHV Club (website or literature)	Correlation N	ns ¹	ns ¹	ns ¹	ns ¹	.497** 29	ns ¹
	American Sand Association literature/web	Correlation N	--	--	--	--	ns ¹	.334** 82
	United Desert Gateway literature/web	Correlation N	--	--	--	--	ns ¹	ns ¹
	XNP Literature	Correlation N	.266** 172	.291** 193	.406** 80	.320** 95	ns ¹	.333* 55
	Tread Lightly! Literature	Correlation N	.265** 131	.352** 149	.281* 58	ns ¹	.344* 45	ns ¹
	XNP website	Correlation N	ns ¹	.199* 99	.352* 47	ns ¹	ns ¹	.387* 30
	TL! website	Correlation N	ns ¹	ns ¹	.470* 24	ns ¹	ns ¹	.530* 18
	Family and friends	Correlation N	ns ¹	.265** 103	ns ¹	.342** 72	ns ¹	ns ¹
	Magazines or books	Correlation N	.201* 102	.214* 115	.343* 48	.407** 62	.311* 50	.436** 55
	OHV/ORV driving class/course	Correlation N	ns ¹	ns ¹	.274* 55	.325** 68	ns ¹	ns ¹
	OHV/ORV tradeshow	Correlation N	ns ¹	ns ¹	ns ¹	ns ¹	.378* 44	.369* 47

* p<.05; ** p<.01
¹ - nonsignificant correlation

Theory of Reasoned Action: Relationship between Norms, Attitudes and Intentions

Researchers often use theory to provide a roadmap for exploring complex phenomenon; and nothing is more complicated than predicting human behavior. In an effort to explore and predict visitors' intentions to perform TL! supportive behaviors, this research used the Theory of Reasoned Action, which is a widely used and successful theory for predicting human behavior. Briefly the theory contends that salient attitudes toward the outcome of a behavior and the perceived support and influence of peers regarding the behavior (subjective norms) determine ones intention to behave in a certain way. Intention is the best predictor of actual behavior.

To investigate why some visitors intend to follow TL! recommended practices and other do not we used composite measures pertaining to attitudes toward specific TL! practices, attitudes toward the influence of norms on these behaviors, and attitudes toward the NPS or BLM, to investigate

their relationship with intentions to perform TL! recommended behaviors. The results suggest that attitudes toward the NPS/BLM were positively correlated with intentions to perform TL! behaviors. In other words, the more positive a person’s attitudes toward the managing agency of a site, the more likely they are to intend to perform TL! recommended behaviors. Global measures of attitudes toward TL! principles were also positively correlated with intentions to perform TL! behaviors in all three samples. This means that the more positive a person’s attitudes toward TL! principles, the stronger the intention to perform TL! recommended behaviors.

Table 6.4: Theory of Reasoned Action: Relationship between Norms, Attitudes and Intentions

Variables		CANY	BICY	ISDRA
		Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Behavioral Intentions
Norms (Composite)	Correlation N	ns ¹	ns ¹	ns ¹
Attitudes toward the NPS/BLM (Composite)	Correlation N	.391 364	.571** 254	.366** 149
Global Composite Measure of TL! Attitudes	Correlation N	.598** 333	.707** 210	.542** 99

* p<.05; ** p<.01
¹ - nonsignificant correlation

Relationship between Volunteering, Philanthropy, Ethics, Attitudes and Behavioral Intentions

Table 6.5 presents the relationships between composite measures of volunteering, philanthropy, ethics, and global attitudes and behavioral intentions. All three of the composite measures (volunteering, philanthropy, and ethic) were significantly and positively correlated with both global attitudes and behavioral intentions for all three samples. There appears to be a strong relationship between intentions to volunteer, give money, and change behaviors (ethic) if deemed negative and attitudes toward TL! actions and intentions to perform these behaviors.

Table 6.5: Correlations among Global Attitudes and Behavioral Intentions with Composite Measures of Influences and Experiences

Category	Variables	CANY		BICY		ISDRA	
		Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions	Global Composite Measure of TL! Attitudes	Global Composite Measure of TL! Behavioral Intentions
Volunteering (Composite)	Correlation	.297**	.418**	.442**	.557**	.384**	.521**
	N	361	361	221	255	143	151
Philanthropy (Composite)	Correlation	.335**	.429**	.511**	.521**	.311**	.462**
	N	329	359	221	255	145	153
Ethic (Composite)	Correlation	.484**	.420**	.440**	.460**	.423**	.477**
	N	365	365	217	252	144	152

* p<.05; ** p<.01
¹ - nonsignificant correlation

SECTION VII—

SITE SPECIFIC QUESTIONS

CANY

Five questions were asked pertaining to management issues facing CANY. Sixty five percent of respondents opposed closing NPS vault toilets. 83% of respondents supported charging a fee for backcountry rescue services. Limiting motorized day use of designated trails and roads received slightly more opposition than support. 77% supported increasing permit fees to cover the maintenance cost of NPS vault toilets. Finally 54% supported increasing fees to cover backcountry rescue/aid.

Table 7.1: CANY specific questions

Item	N	Mean ¹	SD							
				(1) Strongly Oppose		(4) Neutral			(7) Strongly Support	
<i>Closing NPS vault toilets and requiring overnight trips to carry and use a portable toilet system</i>	377	2.95	2.15	40.8	14.9	8.5	8.8	8.5	8.2	10.3
<i>Charging a fee for backcountry rescue/aid</i>	379	5.71	1.48	2.9	2.4	2.9	8.4	17.2	28.5	37.7
<i>Limiting motorized day use of designated trails/roads</i>	377	3.60	2.20	26.5	16.2	7.7	10.6	11.9	13.3	13.8
<i>Increasing permit fees to cover maintenance of NPS vault toilets</i>	378	5.46	1.68	5.0	3.7	3.7	10.3	16.1	27.0	34.1
<i>Increasing permit fees to cover backcountry rescue/aid</i>	379	4.39	2.14	14.8	12.1	8.4	10.6	13.7	18.7	21.6

¹ - Mean based on a 7-point Likert scale (1=Strongly Oppose, 4=Neutral, 7=Strongly Support)

BICY

The number of generations of family that have enjoyed ORV recreation in BICY had a mean of 2.25 (Table 7.2).

Table 7.2: BICY specific questions

Number of generations of family that have enjoyed ORV recreation in Big Cypress					
Variable	N	Percent	Mean	SD	Range
How many past and present generations of your family have enjoyed ORV recreation in Big Cypress?	269	--	2.25	1.39	0-10

ISDRA

Currently the Bureau of Land Management requires the purchase of a permit for each primary vehicle that is driven into ISDRA. We asked each respondent to circle the type of permit they most recently purchased (either weekly or seasonal) and then asked them to respond to a set of two corresponding questions pertaining to their willingness to pay a certain amount for the permit. 5 sets of unique price breaks were used for each type of permit: Weekly on-site (\$40, 50, 60, 70, 80), Weekly off-site (\$25, 35, 45, 55, 65), Seasonal on-site (\$120, 140, 160, 180, 200), and Seasonal off-site (\$90, 110, 130, 150, 170). Each individual responded to only one set of questions pertaining to willingness to pay for off-site and onsite permits. Out of the 600 individuals in the sample, we sent 5 groups of 120 one of the sets of questions pertaining to willingness to pay. Specifically we asked: “would you be willing to pay \$XX for a weekly (or seasonal) permit that you purchase off-site and prior to arriving at ISDRA? And “would you be willing to pay \$XX for a weekly (or seasonal) permit that you purchase from the BLM when you arrive at ISDRA? The answer choices were “Yes” or “no”.

Results suggest that the majority of respondents purchase off-site permits. In addition 75% of respondents were willing to pay the \$25 dollar price for the weekly off-site permit. 70% of respondents (out of the 10 who responded to the question) were willing to pay \$35 dollars for a weekly permit. 60% were willing to spend \$45 for a weekly off-site permit. 40% were willing to pay \$55 and 25% were willing to pay \$65 dollars for a weekly off-site permit. These results should be interpreted with caution due to the low number of responses per price category.

Similar trends were found for the seasonal permit purchased off-site. 86% were willing to pay \$90 and 64% were willing to pay \$110 for a seasonal permit purchased off-site. Only 38% were willing to pay \$130, 25% were willing to pay \$150, and 23% were willing to pay \$170 for a seasonal permit purchased off-site. These results should also be interpreted with caution due to the low number of responses per price category.

The data collected on willingness to pay for weekly and seasonal permits purchased on site appears to indicate little support for this price structure however very few individuals answered these questions. This lack of participation in these series of questions limits our ability to draw conclusions from this data. Future research must be conducted to draw a larger sample to understand ISDRA visitors’ willingness to pay for permits.

Table 7.3: ISDRA willingness to pay for permit results

ISDRA Permit Prices and % Willing to Pay							
weekly off-site		seasonal off-site		weekly on-site		seasonal on-site	
\$	% (n)	\$	% (n)	\$	% (n)	\$	% (n)
25	75 (12)	90	85.7 (24)	40	25 (4)	120	22.2 (6)
35	70 (7)	110	63.6 (14)	50	10 (1)	140	4.5 (1)
45	60 (6)	130	38.1 (8)	60	30 (3)	160	14.3 (3)
55	40 (4)	150	25 (6)	70	0	180	4.2 (1)
65	25 (3)	170	22.7 (5)	80	8.3 (1)	200	18.2 (4)

** Interpret results with caution due to low response numbers*

Figure 7.1: ISDRA willingness to pay for permit results



SECTION VIII –

CONCLUSIONS & MANAGEMENT RECOMMENDATIONS

Summary

The Tread Lightly! program appears to be a relatively successful educational initiative designed to help effectively manage OHV drivers/visitors and protect valuable resources. The discussion that follows provides managers and others charged with the dissemination of the TL! message ‘food for thought.’ That is this section provides general summary information and conclusions regarding what seems to work, things that could be improved, and describes the psychological constructs that should be targeted if developing compliant TL! behaviors is the desired outcome of the TL! program.

Key Findings and Management Implications

1. *Most respondents are highly supportive of TL!*

Global perceptions of the TL! program are positive. In short, the OHV and 4 wheel drive visitors surveyed responded favorably to items measuring perceptions of the program. This suggests they are not only open to the message but also quite willing to change behavior if they learned their current actions were not acceptable (see Table 5.8).

2. *Education strategies are important.*

Outreach strategies, including personnel, educational talks or videos, kiosks, and/or printed literature are for a substantial number of individuals surveyed their primary source of TL! information. Our data suggests individuals use a combination of informational sources. Thus, a multi-pronged diffusion strategy to disseminate best practices should utilize a variety of different media (video, face to face, signage, literature, web). The role of popular media such as magazines should also not be ignored for future dissemination of the TL! message.

3. *Education strategies should be thought of as reinforcing and refining existing and previously held knowledge and attitudes.*

Our data suggests that awareness of the TL! message is moderately diffused amongst OHV and 4 wheel drive visitors to the three federally managed sites investigated. Approximately 70% of total respondents indicated having heard of TL! and a predominance of those respondents have a positive general attitude toward the TL! program. However, awareness of the TL! program does not necessarily equate to positive attitudes toward specific recommended TL! behaviors or intentions to perform TL! compliant behaviors. At its core, the TL! message is designed to help instill an environmental ethic amongst OHV enthusiasts. Promotion agents (NPS, BLM and others) should remember that attitudes and

behavior change are most likely not influenced by informational pamphlets or websites alone. In other words, information only influences behavior if a person is ignorant of proper behaviors and already holds positive attitudes and desires to do the “correct thing”. Therefore, managers and others who utilize the TL! program to help protect resources and meet management objectives should consider the theoretical frameworks used in this study as a road map for understanding and predicting visitor behaviors

4. *Awareness of TL! does not necessarily ensure TL! compliant behavior.*

A minority of individuals, even those who claim to have extensive OHV experience, have attitudes and intentions pertaining to current recommended practices that stray from what management would prefer. The TL! principles have remained fairly constant but the specific recommended behaviors have undergone considerable changes recently. It is likely that respondents with years of OHV driving experience are familiar with the broad principles but are simply ‘not up to speed’ with current promoted practices. Therefore, TL! outreach and programming should not only focus on the broad principles but should provide considerable effort explaining the SPECIFIC recommended practices and WHY they are important to perform (e.g., protection of resources, etc.). From a theoretical perspective, messages that serve to make the audience think in-depth about a subject are likely to be particularly effective (Petty, McMichael, & Brannon, 1992).

5. *Site managers should continue to work with TL! to develop site specific educational materials so as to ensure relevancy.*

Many sites and managers have developed unique context specific informational campaigns and literature because the recommended best practices associated with the general TL! principles do not always apply to all ecological areas (See Section II for examples).

6. *TL! principles and associated behaviors are not always thematically linked.*

It is the opinion of the authors of this report that the TL! principles and their respective behaviors need to be refined. For example, the principle “Travel responsibly on designated roads and trails or in permitted areas” is the core of the TL! program. The theme of this principle appears to be diluted by a number of general safety and driving suggestions that do not correspond with the idea of driving only in designated areas (or else we will lose our right to recreate on public lands). In addition the high number of associated recommended behaviors also dilutes this message. Safety and driving tips are very important and they may need to fall under a new principle. The other point we would like to make is that several recommended behaviors appear under more than 1 principle. For example “keep noise and dust down” appears under “Respect the rights of others;” a similar recommendation is found under “Do your part,” “protect the soundscape by preventing unnecessary noise...” By eliminating duplication, the principles and their associated recommended behaviors become more targeted and therefore more useful. A relatively high percentage of respondents (between 67 and 76%) also indicated that they thought the TL! message was too general (see Table 5.8). We recognize that TL! offers many levels of

education (from basic PSAs to courses) so these recommendations are only meant to spur reflection.

7. *Target salient attitudes and beliefs or why theory matters.*

Educating visitors (aiming to increase their knowledge) is generally viewed as an *ineffective* strategy for behavior modification (Ajzen & Fishbein, 1980). Instead, those charged with promotion of the LNT effort would be well served to target the belief structures that underpin human behavior (Ajzen, 1991; Iozzi, 1989). The utilization of relevant and applicable theory is essential for behavioral modification strategies to be effective (Ballantyne & Uzzell, 1999). As stated above, messages that are designed to engage audience members through direct or central means, which motivate people to think about an action rather than blindly follow instructions (peripheral route), are likely to be more effective (Petty & Cacioppo, 1986). In addition, strategic communication that intends to influence behaviors needs to target salient belief structures that underpin our attitudes, norms, and feelings of control. The notion of targeting the underlying salient beliefs of individuals rests within the theoretical framework of the Theory of Reasoned Action (TRA; see Section III for more information). The first step in the construction of a message, therefore, requires defining the targeted audience, then investigating their relevant beliefs, a process that cannot be left to intuition but must be guided by informal or formal research (see Ham et. al 2008 for more information). In short, targeting salient beliefs is of “paramount importance” (Ham & Krumpal, 1996, p. 18). See Figure 8.1 and 8.2 for TL! examples of targeted communication.

Figure 8.1 and 8.2: Examples of TL! Targeted and Theoretical Communication (theory of reasoned action) focused on both the outcome of performing the behavior (losing access) and normative pressure (everyone will suffer).



8. *For problem behaviors, move from education to strategic communication.*

Move TL! OHV-4 wheel driver education from a general education program to a strategic communication effort if problem behaviors arise. Strategic communication was described by Ham (1997) as taking environmental communication (here promotion of the TL! message) from what he described as a 'loving/respecting nature' to a full-fledged systematic and planned persuasive communication effort. A strategic communication effort rests on the ability of communication to target explicit behaviors (Byers, 1996). It moves what can be regarded as general environmental communication (like a ranger reciting the TL! principles) to a full-fledged persuasive communication effort designed to target specific behaviors and to reinforce, change, or modify them to help meet management objectives. Undertaking a persuasive communication effort necessitates the explicit acknowledgement of desired outcomes – once these outcomes are established then a variety of mechanisms can be utilized to help reach them. Under a strategic communication effort, specific outcomes could include behavioral, emotional, and attitudinal components.

Why change the promotion of TL! from where it is now, which is a generally a promotion of facts utilizing a variety of formats, to a strategic communication effort? Firstly, research has continually proven the lack of a linear relationship between knowledge and behaviors. Individuals may know what the correct behavior is – however, they often fail to exhibit it. Secondly, education has often been criticized as lacking specificity especially with regards to outcomes (Kohl, 2005). A strategic effort that explicitly promotes a specific TL! message (such as "Travel responsibly on designated roads and trails or in permitted areas" (or else we will lose our right to recreate on public lands) can help overcome this potential shortcoming by focusing attention on specific goals and objectives. By explicitly recognizing a number of targeted goals, environmental communicators can help design messages that elicit elaboration by provoking the audience to think rather than just presenting facts (Ham et. al., 2008). Finally, implementing a strategic communication effort can assist in evaluating the outcome of that effort. Because implementing a strategic communication effort relies on the explicit statement of goals and objectives, one can design measurement strategies to ascertain if those endeavors are actually being met.

9. *Institute an enhanced philanthropic program. Results from the study suggest that visitors want to support protection of their respective site. In addition a voluntary philanthropic system could serve as a tool for reinforcing a stewardship ethic and generate much needed funds that can support the preservation of important resources.*

Between 65% and 90% of respondents in the study agreed that donating money for the conservation of resources was worthwhile. Between 26.5% and 40% depending on site indicated that they intended to donate between \$25-\$50 for the protection and improvement of the particular site in the next year. If a particular site is interested in developing a theory based communication strategy for reinforcing visitors desire to

donate, the process would involve 8 steps (see Powell & Ham, 2008; Ham et. al, 2008 for more information):

1. Review current philanthropic marketing and interpretation efforts.
2. Interview managers and staff regarding the strengths and weaknesses of the current efforts.
3. Review the setting, context, and logistical limitations.
4. Conduct informal individual and focus group interviews of OHV visitors to identify their salient beliefs regarding conservation and their willingness to donate money.
5. Determine key messages that would induce donations and enhance the visitor experience.
6. Develop a strategy for delivering these messages using both visual and oral communication media.
7. Develop an easy and immediate mechanism for visitors to donate on-site. This is particularly important for a successful philanthropic campaign.
8. Develop prototype designs for supporting printed material, displays, and other visual communication devices.

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APPENDIX I – TL! BROCHURE

By practicing the Tread Lightly! principles, you not only care for the environment and reduce conflicts among recreationists, you help protect access to recreational areas for years to come.

Tread Lightly!® is a national nonprofit organization with a mission to promote responsible recreation through ethics education and stewardship. It is considered the nation's signature ethics message for outdoor enthusiasts that use motorized vehicles while enjoying trails and waterways. Tread Lightly! offers unique training and restoration programs strategically designed to instill an ethic of responsibility in a wide variety of outdoor enthusiasts and the industries that serve them.

- T** TRAVEL RESPONSIBLY
- R** RESPECT THE RIGHTS OF OTHERS
- E** EDUCATE YOURSELF
- A** AVOID SENSITIVE AREAS
- D** DO YOUR PART



To learn more, contact Tread Lightly! at
Phone: 800-966-9900
Email: treadlightly@treadlightly.org
Or visit us on the web at www.treadlightly.org

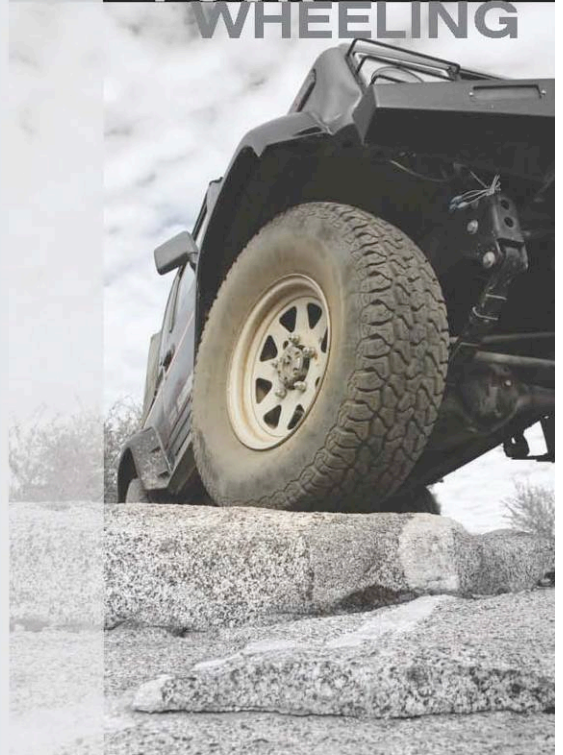
Download *The Tread Lightly! Guide to Responsible Four Wheeling* for more useful information for riding in the great outdoors at www.treadlightly.org.

Brought to you by



**RESPECTED
IS OPEN ACCESS**

FOUR WHEELING



**TREAD LIGHTLY!'S
RESPONSIBLE RECREATION TIPS**

TRAVEL RESPONSIBLY

Travel responsibly on designated roads, trails or areas.

- Travel only in areas open to four-wheel drive vehicles.
- For your safety, travel straight up or down hills.
- Drive over, not around obstacles to avoid widening the trail.
- Straddle ruts, gullies, and washouts even if they are wider than your vehicle.
- Cross streams only at designated fording points, where the road crosses the stream.
- When possible, avoid mud. In soft terrain, go easy on the gas to avoid wheel spin, which can cause rutting.
- Don't turn around on narrow roads, steep terrain, or unstable ground. Back up until you find a safe place to turn around.
- Stop frequently and scout ahead on foot.
- To help with traction, balance your load and lower tire pressure to where you see a bulge (typically not less than 20 pounds).
- Know where the differential or the lowest point on your vehicle is. This will help in negotiating terrain and prevent vehicle damage resulting in oil and fluid spills on the trail.
- Maintain a reasonable distance between vehicles.
- Comply with all signs and respect barriers.
- Travel with a group of two or more vehicles. Driving solo can leave you vulnerable if you have an accident or breakdown. Designate meeting areas in case of separation.
- Choose the appropriate winch for your vehicle size.
- Attach towing cable, tree strap, or chain as low as possible to the object being winched. Let the winch do the work, never drive the winch.
- When winching always inspect your equipment, use the right winch for the situation, find a good secure anchor, and never winch with less than five wraps of wire rope around the drum.
- When using a tree as an anchor, use a wide tree strap to avoid damaging the trunk of the tree.
- Don't mix driving with alcohol or drugs.

RESPECT THE RIGHTS OF OTHERS

Respect the rights of others, including private property owners, all recreational trail users, campers and others so they can enjoy their recreational activities undisturbed.

- Be considerate of others on the road or trail.
- Leave gates as you find them.
- If crossing private property, be sure to ask permission from the landowner(s).
- Yield the right of way to those passing you or traveling uphill. Yield to mountain bikers, hikers, and horses.
- When encountering horses on the trail, move to the side of the trail, stop, turn off your engine, and speak—you want the horse to know you are human. Ask the rider the best way to proceed.
- Proceed with caution around horses and pack animals. Sudden, unfamiliar activity may spook animals—possibly causing injury to animals, handlers, and others on the trail.
- Do not idly ride around in camping, picnicking, trailhead, or residential areas.
- Keep speeds low around crowds and in camping areas.
- Keep the noise and dust down.

EDUCATE YOURSELF

Educate yourself prior to your trip by obtaining travel maps and regulations from public agencies, planning for your trip, taking recreation skills classes, and knowing how to operate your equipment safely.

- Obtain a map—motor vehicle use map where appropriate—of your destination and determine which areas are open to off-highway vehicles.
- Make a realistic plan and stick to it. Always tell someone of your travel plans.
- Contact the land manager for area restrictions, closures, and permit requirements.
- Check the weather forecast before you go.
- Prepare for the unexpected by packing necessary emergency items.
- Buckle-up! Seat belts are mandatory.
- Know your limitations. Watch your time, your fuel, and your energy.
- Take an off-highway drivers course to learn more about negotiating terrain in a four-wheel drive vehicle.
- Make sure your vehicle is mechanically up to task. Be prepared with tools, supplies, spares, and a spill kit for trailside repairs.

AVOID SENSITIVE AREAS

Avoid sensitive areas such as meadows, lakeshores, wetlands and streams. Stay on designated routes.

- Other sensitive habitats to avoid include living desert soils, tundra, and seasonal nesting or breeding areas.
- Do not disturb historical, archeological, or paleontological sites.
- Avoid "spooking" livestock and wildlife you encounter and keep your distance.
- Motorized and mechanized vehicles are not allowed in designated Wilderness Areas.

DO YOUR PART

Do your part by modeling appropriate behavior, leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, and restoring degraded areas.

- Carry a trash bag on your vehicle and pick up litter left by others.
- Pack out what you pack in.
- Practice minimum impact camping by using established sites, camping 200 feet from water resources and trails.
- Observe proper sanitary waste disposal or pack your waste out.
- Protect the soundscape by preventing unnecessary noise created by a poorly tuned vehicle or revving your engine.
- Before and after a ride, wash your vehicle to reduce the spread of invasive species.
- Build a trail community. Get to know other types of recreationists that share your favorite trail.

APPENDIX II - QUESTIONNAIRE



National Park Service
U.S. Department of the Interior

Big Cypress National Preserve Visitor Study



Photo: Wade Vagias 2009

Fall 2009

Department of Parks, Recreation & Tourism Management
Clemson University
Clemson, South Carolina 29634

OMB Approval Number: 1024-0224
NPS Number: 08-051
Expiration Date: 12/31/2010

The questionnaire is designed to explore your attitudes and opinions regarding Off Road Vehicle (ORV) operation at Big Cypress National Preserve, Florida. The primary aim of this study is to help evaluate and subsequently improve education efforts at Big Cypress.

Results will be reported in broad statistical terms only to help improve visitor education. No individual names will be linked with answers and there are no 'correct' or 'incorrect' answers, so please feel free to express your candid views and opinions. Finally, in this study, the term ORV refers to vehicles such as air boats, swamp buggies, street legal 4X4s, all-terrain vehicles, and motorcycles that are legally appropriate for use in Big Cypress. This survey should take approximately 15 minutes to complete.

Section A: Your ORV Experience & Personal Use

1. In 2009, how many trips did you make to Big Cypress National Preserve to engage in ORV operation? _____ (write in # of trips)

2. When driving your ORV in Big Cypress National Preserve:
 - How many ORVs are normally in your group? _____ (write in # of ORVs in your group)
 - How many individuals, including yourself, are normally in your group? _____ (write in # of individuals)

3. Please indicate the number of days and hours you spent at Big Cypress National Preserve?
 ____ days ____ hours

4. How many years have you been operating an ORV? _____ (write in # of years operating an ORV)

5. How many days in the past 12 months did you operate an ORV off-road? _____ (write in # of days operating an ORV in the past 12 months)

6. Please rate your skill level in driving an ORV off-road? (please circle one answer)

Novice	Beginner	Intermediate	Advanced	Expert
1	2	3	5	5

7. Please indicate if you have done any of the following in the past 12 months in Big Cypress NP. (check all that apply)
 - ____ Volunteered to do trail maintenance → how many days? _____
 - ____ Participated in an organized clean-up → how many days? _____
 - ____ Donated money for protection/maintenance → dollar amount? _____

8. What type of ORV do you primarily drive at Big Cypress NP? (please check one answer)
 - ____ Street Legal 4x4 ____ Swamp Buggy
 - ____ ATV/UTV (quad, etc)
 - ____ Other (please describe) _____

Section B: Opinions & Attitudes about ORVs

9. We would like to know more about your opinions and attitudes regarding the following statements. Please rate each statement on the 7-point scale using '1' *Strongly Disagree* to '7' *Strongly Agree*.

(please circle one number per statement)	Strongly Disagree		Neutral			Strongly Agree	
I believe it is important to walk challenging terrain before attempting to navigate it in my ORV.	1	2	3	4	5	6	7
Obtaining agency regulations before driving my ORV is important.	1	2	3	4	5	6	7
Having safety gear appropriate for my ORV and driving conditions is essential.	1	2	3	4	5	6	7
If I am driving in a designated ORV area, I do not need to worry about sensitive animals and plants.	1	2	3	4	5	6	7
My ORV does not bother wildlife.	1	2	3	4	5	6	7
I feel a responsibility to pick up trash left by others.	1	2	3	4	5	6	7
Washing my vehicle after driving is unnecessary.	1	2	3	4	5	6	7
Driving my ORV where they are prohibited may lead to more areas of Big Cypress National Preserve being closed.	1	2	3	4	5	6	7
It is my right to drive my ORV where I want on public lands.	1	2	3	4	5	6	7
If I am in a designated ORV area, decreasing speed to reduce noise and dust is unnecessary.	1	2	3	4	5	6	7
All ORV drivers should take a skills and safety class before operating a vehicle in Big Cypress National Preserve.	1	2	3	4	5	6	7
It is unnecessary to slow my ORV down when I see wildlife.	1	2	3	4	5	6	7
Driving my ORV where they are not allowed leaves no lasting environmental impact to Big Cypress National Preserve.	1	2	3	4	5	6	7
A single ORV traveling alone is unsafe.	1	2	3	4	5	6	7
Scouting an area before driving at high speed is essential.	1	2	3	4	5	6	7
ORV driving and safety courses are a waste of my time	1	2	3	4	5	6	7
If I am in a designated ORV area, the noise from my vehicle shouldn't bother anyone.	1	2	3	4	5	6	7
It is unnecessary to follow posted speed limits if I am driving in a designated ORV area.	1	2	3	4	5	6	7
There are endangered animals and plants in the area where I drive my ORV.	1	2	3	4	5	6	7
ORV operators should be allowed to drive wherever they want in Big Cypress National Preserve.	1	2	3	4	5	6	7
It is important to avoid driving over vegetation.	1	2	3	4	5	6	7
Mufflers should be required on all ORVs.	1	2	3	4	5	6	7
I am opposed to being told how fast I can drive.	1	2	3	4	5	6	7
It is acceptable to drive off designated trails to avoid obstacles.	1	2	3	4	5	6	7

Section C: Motivation for Operating ORVs at Big Cypress NP **Page 3 of 6**

10. Individuals engage in ORV operation at Big Cypress National Preserve for a number of reasons. Using the chart below, please indicate which of the following motivates you to operate your ORV at Big Cypress National Preserve and the importance of each reason for which you answer 'yes'.

If YES, please rate the importance of that Motivational factor using the scale below:

Please circle yes or no for each item.			Not Very Important		Neutral			Extremely Important	
Trail / Leisure riding	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Access to otherwise inaccessible areas	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Camping	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Sport / Aggressive recreation driving	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Family / Friends Outing	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Hunting / Fishing	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Wildlife Viewing	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						
Other _____	No	Yes	<i>If yes -></i> 1 2 3 4 5 6 7						

Section D: Behavioral Intentions

11. On your next ORV outing to Big Cypress National Preserve, to what extent do you intend to do the following:

(please circle one number per statement)	Definitely DO NOT intend to		Neutral			Definitely DO intend to	
Pick up trash left by others	1	2	3	4	5	6	7
Drive only on designated trails (areas) in Big Cypress National Preserve	1	2	3	4	5	6	7
Slow down around other ORVs	1	2	3	4	5	6	7
Wash my vehicle after visiting Big Cypress National Preserve	1	2	3	4	5	6	7
Take an ORV safe operators course	1	2	3	4	5	6	7
Approach wildlife to get a better view	1	2	3	4	5	6	7
Ride off designated trails (areas)	1	2	3	4	5	6	7
Pack out my group's trash	1	2	3	4	5	6	7
Run over vegetation	1	2	3	4	5	6	7
Learn all rules/regulations before driving at Big Cypress National Preserve	1	2	3	4	5	6	7
Seek information about the endangered animals and plants in Big Cypress National Preserve	1	2	3	4	5	6	7

12. We would like to know more about your opinions regarding the following statements. Please rate each statement on the 7-point scale using '1' *Strongly Disagree* to '7' *Strongly Agree*.

(please circle one number per statement)	Strongly Disagree		Neutral			Strongly Agree	
The opinions of my friends influence my driving style at Big Cypress National Preserve.	1	2	3	4	5	6	7
Early in life, I spent time engaged in mechanized recreational activities like four wheeling, snowmobiling and/or boating.	1	2	3	4	5	6	7
I trust the NPS (ranger) staff at Big Cypress National Preserve.	1	2	3	4	5	6	7
In the next year, I intend to volunteer with the NPS for one day to maintain and improve ORV designated areas/trails.	1	2	3	4	5	6	7
I would not alter my ORV operating style, regardless of what others in my group may say or do.	1	2	3	4	5	6	7
If asked, my ORV friends would think that donating money for the improvement and conservation of Big Cypress NP is a good idea.	1	2	3	4	5	6	7
If I knew my ORV was harming wildlife, I would not operate my vehicle there.	1	2	3	4	5	6	7
Members of my group strongly influence where I drive at Big Cypress National Preserve.	1	2	3	4	5	6	7
I have little respect for the NPS staff at Big Cypress National Preserve.	1	2	3	4	5	6	7
Early in life, I spent time in the outdoors enjoying nature.	1	2	3	4	5	6	7
Donating money for the improvement and conservation of Big Cypress National Preserve is worthwhile.	1	2	3	4	5	6	7
My friends would discourage me from breaking Big Cypress National Preserve ORV regulations.	1	2	3	4	5	6	7
If I was told my driving style damaged the environment, I would change my behavior.	1	2	3	4	5	6	7
Volunteering with the NPS to maintain and improve ORV designated areas/trails is beneficial.	1	2	3	4	5	6	7
Early in life, I spent time hunting.	1	2	3	4	5	6	7
I encourage my friends to donate money for the improvement and conservation of Big Cypress National Preserve.	1	2	3	4	5	6	7
In the next year, I intend to donate \$25-\$50 to the NPS for the improvement and conservation of Big Cypress National Preserve.	1	2	3	4	5	6	7
I think doing what the NPS says is important when driving my ORV in Big Cypress National Preserve.	1	2	3	4	5	6	7
If I knew my ORV driving was bothering other visitors, I would go elsewhere.	1	2	3	4	5	6	7
My friends think volunteering with the NPS to maintain and improve ORV designated areas/trails is a good idea.	1	2	3	4	5	6	7

13. Have you ever heard of Tread Lightly! (TL!)? (please check one answer)

No → If NO, please skip to Section G

Yes → I first heard of Tread Lightly! in _____ (year)

14. How would you describe your current knowledge of the Tread Lightly! Principles (please circle one number)

No Knowledge		Average Knowledge		Expert Knowledge
1	2	3	4	5
				6
				7

15. Please provide your opinions regarding the Tread Lightly! message.

(please circle one number per statement)	Strongly Disagree				Neutral				Strongly Agree
The TL! message made me think about ways to minimize impacts caused by my ORV.	1	2	3	4	5	6	7		
The TL! principles are too general.	1	2	3	4	5	6	7		
TL! provides useful information for minimizing environmental impacts while operating my ORV in Big Cypress NP.	1	2	3	4	5	6	7		
The TL! educational message insults my intelligence.	1	2	3	4	5	6	7		
TL! guidelines provide relevant information on how best to drive my ORV while in Big Cypress NP.	1	2	3	4	5	6	7		
I learned new information on how to reduce my ORV's impact from TL!.	1	2	3	4	5	6	7		
The TL! educational message assumes ORV operators cause negative environmental impacts.	1	2	3	4	5	6	7		
The TL! educational program influences my ORV driving behaviors.	1	2	3	4	5	6	7		

16. Have you used any of the following sources to learn about Tread Lightly! If yes, indicate how much you learned about TL! from the source:

(please circle yes or no for each item)			Amount Learned							
			Nothing			Moderate Amount			Extensive Amount	
NPS educational talk/video	No	Yes	If yes ->	0	1	2	3	4	5	6
ORV Club (website or literature)	No	Yes	If yes ->	0	1	2	3	4	5	6
Big Cypress NP Literature	No	Yes	If yes ->	0	1	2	3	4	5	6
Tread Lightly! Literature	No	Yes	If yes ->	0	1	2	3	4	5	6
Big Cypress NP website	No	Yes	If yes ->	0	1	2	3	4	5	6
TL! website	No	Yes	If yes ->	0	1	2	3	4	5	6
Family and Friends	No	Yes	If yes ->	0	1	2	3	4	5	6
Magazines or books	No	Yes	If yes ->	0	1	2	3	4	5	6
ORV Driving Class / Course	No	Yes	If yes ->	0	1	2	3	4	5	6
ORV trade shows	No	Yes	If yes ->	0	1	2	3	4	5	6

17. How many past and present generations of your family have enjoyed ORV recreation in Big Cypress?

Section H: Background Information

Please fill out the following regarding your background. None of the information in this or other sections will be associated with your name.

18. What is your sex? *(please check one answer)*
 Male Female

19. What is your age? _____ *(years)*

20. Are you Hispanic or Latino? *(please check one answer)*
 No Yes

21. What is your race? *(please check one answer)*
 White Black or African American
 Asian American Indian or Alaska Native
 Native Hawaiian or other Pacific Islander

22. What is the highest education level you have achieved? *(please circle one number)*

Elementary	High School	College	Graduate Study
5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20+

23. Where do you live?

City: _____ State _____ Zip _____

Country (if not US): _____

If other than Florida, how many months per year do you reside in Florida? _____

Concluding Comments

YES, I would like to see the results of this study! My email address is: *(please print neatly)*

_____ @ _____

Is there anything else you would like to tell us about ORVs, Tread Lightly!, and/or Big Cypress National Preserve? Please include any additional thoughts or comments you may have in the space provided below.

Thank you for your participation in this important study!
Please return your completed questionnaire in the pre-paid reply envelope as soon as possible so
we can remove your name from our mailing list.

This form should be returned in the enclosed self-addressed stamped envelope to:

Department of Parks, Recreation and Tourism Management
263 Lehotsky Hall, Box 340735
Clemson University
Clemson, South Carolina 29634-0735

PRIVACY ACT and PAPERWORK REDUCTION ACT statement:

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. Your name is requested for follow-up mailing purposes only. When analysis of the questionnaire is completed, all name and address files will be destroyed. Thus permanent data will be anonymous. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current valid OMB control number. Burden estimate statement: Public reporting for this form is estimated to average 15 minutes per response.

Direct comments regarding the burden estimate or any other aspect of this form to:

Garry Oye, 1201 Eye (I) Street, 10th Floor, Room 1047, Washington D.C., 20005; Garry_Oye@nps.gov

APPENDIX III- COMMENTS FROM RESPONDENTS

CANY

<p>My OHV is a truck which I used solely to get to the hardtimes campground. My "real" OHV is a mountain bike. I'm not sure that OHV use within the national parks is a good idea/use. The noise, disturbance of wildlife, destruction of habitat etc. seems incompatible with the NPS mission.</p>
<p>It's an absolute and much appreciated privilege to be on a white rim trip with friends and family. We value the experience and hope to continue our tradition for many years to come. Thank you to all who make these trips possible!</p>
<p>Neither I nore my friends consider OHV use to be recreation. Our OHV use is for camping trips in the Maze District or as support vehicles for White Rim trips. Most people who consider OHV use to be recreation are probably to stupid to be trainable.</p>
<p>TL! Is a great program. I would recommend a very basic "How to drive offroad Responsibly" about 30-60min long covering all the TL! Principles, rules of the road, trash and waste removal, basic equipment, safety, etc. Something a la Bill Burke but shorter-maybe he can provide an outline of what is recommended; before a back country permit is issued. We were taught that offroad driving basic principles was; drive as slow as possible and as fast as necessary to maintain steerage and traction.</p>
<p>It would be helpful to provide literature/encouragement to visitors to pick up trash and help maintain roads and trails. Most of us would have to drive several hours or days to join a volunteer crew. We always spend several hours/trip doing this, but most people don't know they should. Dirtbikes should not be out on the trails in the dark. This is way too dangerous and ends up costing everybody else for rescues. Closing the toilets would probably lead to a mess; however, we're more than willing to bring our own TP. This is Not an appropriate area for driving fast and recklessly. Rangers should feel free to hand out tickets.</p>
<p>I was very happy with the small number of campsites on the White Rim Trail. Had a great time!</p>
<p>I am from AZ and we have used Canyonlands only twice White Rim Trail 2009 and elephant hill 2008. both trips were great and I would hate to see canyonlands closed to off-roaders. At the same time I strongly support environmental protection. I see this as a contradiction. Education and enforcement I see, as the compromise.</p>
<p>We have appreciated the diversity that Canyonlands has to offer in respect to Northern Minnesota.</p>
<p>The off-road trails in Canyonlands provide a unique national park experience. I've been using the vehicle trails since 1992 to using the Cany backcountry since 1978. I think close/strict regulation is warranted. However, I hope closure is not necessary, except for explicit resource protection objective, such as the salt creek closure. Increasing backcountry fees to increase patrols would make more sense than increasing fees for toilets. If pits are removed all vehicle uses should carry po-tables, not just overnight.</p>
<p>Stiff penalties should be applied to those who ride off-trail and damage the delicate ecosystem of the Colorado Plateau.</p>
<p>OHV usually means ATVs, they are not allowed in National Parks (and shouldn't be!). 2009 trip to White Rim Trail (previous trip to white rim was 30yrs ago) was impressed by good behavior of users on trip. An staying on designated trail and good trail manners. Canyonlands is unique in having open 4wd trails to get to remote areas via licensed vehicles, and Gps does a good job of managing, by limits of permits. Drive my jeep from Coliform and enjoy canyonlands by mountain biking 4WD mountain biking, 4WD roads, backpacking and landscape photography in areas that are accessible via existing 4WD roads</p>
<p>Sec B-9-#17--My jeep has the original factory muffler so any noise I make should not bother other park visitors. Noisy/loud OHV should not be allowed. As a senior citizen I rely on my Jeep to reach areas too far to walk. Hope you can open more back country OHV roads or trails and at least maintain existing trails Interested in volunteer opportunities when I am in the area. Thanks</p>
<p>Canyonlands is the only place where a family can immerse themselves in virtually untouched wilderness via a OHV. We flew from Boston just for this experience. The Park fees are ridiculously inexpensive. Just charge more. The rajers are fantastic, trails beautiful I would pay for what I was charged.</p>
<p>I took one 4X4 truck with mountain bike rides on White Rim Trail for 3 days, 2 nights March 2009. We saw minimal trash and I honestly didn't hear any noise from OHVs. We saw maybe 2 trucks per day, otherwise all others were</p>

mountain bikers. It seemed quiet and we felt low impact there. It was a great experience and I feel the limited permit system works well. Thank you for the survey. Very interesting.
I have no problem with very limited OHV use. In fact, I'm surprised I'm considered an OHV user but yes I do regularly take vehicles on the White Rim (about 1 year). In general I consider ATVs to be the largest threat to our public lands. People are so irresponsible. It makes me crazy.
Keep it open to OHV use! My family loves to visit canyonlands and we could not without OHV use. Thanks.
I feel some OHV activity is ok, but I am for strong regulations to keep the packs as pristine as possible.
our visit was enjoyable. Facilities were clean and nice. Personnel were helpful and friendly. Campgrounds were nice--crowded--could you build some more?
If training will be required, would prefer to have on-line training/video. Would also prefer on-line reservations for permits and camping and ability to make on-line reservations up to the day of arrival.
I love the national parks in general and canyonlands in particular also the park rangers at canyonlands are super.
In our April 8-day trip, we spent almost the entire time hiking or driving in and exploring the backcountry. We are members of the colorado Archaeology Society and take quite a bit of responsibility and "ownership" in our country's national parks, wildlife, backcountry/wilderness, and archaeological sites. I hope the reckless and careless OHV drivers don't cause canyonlands NP to close its backcountry to responsible citizens.
Definitions of OHV would be helpful. Does it include Mountain bikes?
OHG is not the correct nomenclature. I and people I recreate will think of this term as 4-wheelers, ATVs and motorcycles. I would recommend calling them 4-wheel drive trucks and SUVs. NPS should issue the orange heavy duty garbage bags to collect trash, maybe even pay a bounty for bringing them. Why wash the vehicle, weed? How about before?
I've only driven once in Canyonlands in order to support a White Rim bicycle group. We camped 2 nights and took turns driving. I was the designated group leader. We all felt very lucky to be able to do the trip with a vehicle.
I strongly oppose the attempt by the southern Utah wilderness alliance to close 9.4 million acres in Utah!! The N.P.S. should encourage more people to donate time and money--higher fees are also ok. Adopt a road/trail programs should be encouraged.
Had a fantastic experience in the Maze.
I feel that 4 wheeler need to be outlawed. It seems that they have no respect anywhere I go on any public lands. I drive a 4 wheel pickup on designated trails unlike the little 4 wheelers I don't try to see how much they can climb or drive through mud, etc. If they road looks bad in my pickup I just turn around. I use common sense unlike most 4 wheelers.
I believe that limited use of existing OHV areas should be continued. I also believe that it is the individual's responsibility to self-rescue and that all other park patrons should not be penalized for poor behavior or an individual.
When picking up the permit, drivers should have to be present and sign off on dread lightly principles. Thank you.
This is the strangest set of questions I've ever seen. If people are wrecking the environment, its doubtful that they will say so, so baldly. Just go out and look around for the answers. I go into the Maze for photo ops. The truck gets me and the water and gear there and back. That's all.
In my case, I have a jeep wrangler and I use it to tow my motorcycle (dirt bike). My group camps outside the park--closer to town. I use both vehicles in the park. I would answer some questions differently, depending on which vehicle you would like to address. For example: I may be with four people and four motorcycles. Or four people and one jeep. I will use the best one for getting me somewhere remote. Where I will start hiking. And yes, I like the quiet!
Drove White Rim Trail. Camped 3 nights. I do not consider WRT to be off-highway driving due to the excellent condition of this road.
I was very impressed with the staff who set up our trips for the White Rim Trail this past spring (we gave the dates, they set the campsites). And also very impressed with helpfulness and professionalism of ranger who gave us the permit and "launched" us. Kudos!
Many of your questions do not offer alternative solutions that I think would be acceptable. My negative answers to TL! Are because I feel the message is common sense and are ethics I was brought up with. I have seen a few people that the TL! Message would help them be better stewards of our environment.
I liked the way the park is currently managed.

<p>the off highway experiences at Canyonlands are great. I am a backpacker, a mountain biker. Access into the maze is critical to some of the greatest backpacking I have ever experienced. As well the Whit Rim is a tremendous mountain bike experience which can be greatly supported by an OHV. I don't like just racing and driving in the desert. OHV use should have a purpose to support active outdoor activities.</p>
<p>I think requiring licensed OHV's is the correct policy. I know little about tread lightly.</p>
<p>thank you for patrolling the trail and handling the problem groups. I hope you were able to fine these groups for not playing along with the rules.</p>
<p>On my last visit NPS were rude, uninformed of the area. I have come to canyonlands my entire life. It is very clear with road and trail closures along with the negative attitudes shown to visitors from the NPS staff that their objectives is to close the park to OHV. Please don't let the environmentalists shut our country down!!</p>
<p>I strongly feel that exploring the backcountry in my Jeep is a privilege. For the most part, I would comply with whatever fees and for training necessary to continue to allow that privilege. Much of Canyonlands is essentially inaccessible by foot due to the amount of drinking water one must carry. This is why I use an OHV. Over the years I have explored the canyonlands backcountry via Jeep several times, camping out on each occasion. I don't do OHV "day" trips. These are too rushed and potentially too destructive. I have the greatest respect for the men and women of the NPS. Thank you for the great job that you do. Once you visit Canyonlands, you cannot stay away for long. Canyonlands will invade your soul, and you must return often.</p>
<p>The only reason I am in this survey is because I have been driving OHVs to support bicycle trips in Canyonlands NP. I personally have had MANY negative experiences with Private and rental OHVs in CNP while biking. It would be great if there was some kind of education program for OHVs in Canyonlands, especially to the private and rentals. The commercial OHVs supporting the bike trips seem to be very concerned about preserving Canyonlands, after all, it is their lively hood (main income). Educate the Rentals Please!</p>
<p>Park rangers at fee station were incredibly knowledgeable and courteous. (Karen, I think) only saw one other group during our 2-day. Considering returning to White Rim for vehicle assisted bike tour.</p>
<p>Canyonlands is awesome! My OHV trip was something I'll remember forever. Definitely want to do it again soon.</p>
<p>I do not believe this is valid to include White Trail vehicle support with OHV use in general. They are very different. I hope my money did not go to fund this!</p>
<p>We love spending time in Canyonlands NP. It is truly a treasure! We visit often to hike, bike, sightsee, photograph, and search out pictographs and petroglyphs. We also backpack and occasionally go "off road" with our Toyota 4runner. Thanks!!</p>
<p>OHVs allow us to see more country faster and further for working people like us who work during the week and only have weekends to camp and jeep. Checked out TL! Website and found it very informative. Elephant Hill was a very fun and scenic trail. Needles Campground flat needs more camping sites for people like us who are traveling through. We visited with quite a few who agreed drove all the way in and had to turn around and camp elsewhere. Please keep all the trails open at any cost.</p>
<p>Our OHV experience typically involves camping/bike trips on the White Rim. We are not the typical 4X4 jeep club types.</p>
<p>Not sure why I received this survey as I've never operated my dirt bike in Canyonlands. I've done the White Rim 4 times on a Mountain Bike and have found OHV users to be respectful.</p>
<p>Canyonlands is a beautiful park and one of my favorite NPs in the country. (As is Arches!) The desert landscape is awe-inspiring. White Rim road is amazing, and I will return for the rest of my life! The campgrounds are nice as well. We normally do not interact with Park staff as we have spent so much in the park already. However, I do think park rangers are very important, and would one day like to work as one, say for a year or so. I interned at Mesa Verde NP and it was a wonderful experience.</p>
<p>I am not a regular OHV user. The purpose of my recent visit to Canyonlands was for a bike trip with OHV support.</p>
<p>Canyonlands is a jewel, protect it.</p>
<p>When literature says no off trail travel it should stress that this includes things like vehicles and even bicycles traveling on solid rock without plants near the road which is what they mean by "trail" Most people wouldn't think a bike on one part of a slick road would be so bad as opposed to an open called traic--it's pretty much all the same in many places.</p>
<p>Our visits to Canyonlands are for hiking and mountain biking. We use either a 4 wheel drive pickup or a 4 wheel drive SUV as support vehicles for those trips i.i. to carry camping gear etc. Our one trip to Canyonlands in 2000 was to the Maze area for a 5 day/4 night mountain bike trip. We prefer to do our exploring in a non-motorized fashion.</p>

<p>Some of my answers are based on the fact that I live far from Canyonlands. I donate money and volunteer in JTNP where I live! When we were in the backcountry there weren't enough established pull-outs sometimes forcing vehicles onto a berm. The needles district supervisor told us over the phone that we would be unable to negotiate the trail in our sportsmobile (4X4 Ford Econoline Van). She was absolutely wrong therefore leading to my lack of trust of staff opinions!</p>
<p>the only 4 wheel drive road in Canyonlands that I have been on is the White Rim and that was Mountain bike trips with a 4 wheel drive support vehicle. When I paid for my campsite and picked up my permit, I received a great information lecture from a ranger about rules/regulations and the resources that I had a duty to protect like cryptobiotic soil. It was great and I personally think everyone who drives/rides the White Rim should have to listen to it. My experience of being on the White rim twice this year and several times in the past few years is that the people driving the trail in 1 day are the ones causing the problems. They don't have to pay a fee even though they use the toilets. It's impossible for them to obey the speed limit if they do it in one day and they don't have a first hand knowledge of environmental requests such as not pulling over off the side of the road to let another vehicle pass in order to prevent widening. Those who don't listen to the ranger talk are ignorant (only sometimes I guess) and more likely to misuse the land. I think it would be wise for EVERYONE to have to pay to ride the white rim and for EVERYONE to sign an acknowledgement that they will follow the rules!</p>
<p>I think it's a shame they closed the road to angel arch. That use to be the highlight of our camps. The NPS puts too much emphasis on protecting Cryptobiotic soil. The rangers got a little careless last time and locked us inside the gate leading to the Salt Creek area. We had to walk to the Visitors center for help.</p>
<p>In 50 years of travel in Canyonlands I have observed that groups are the biggest threat to the environment. I seldom travel with another OHV. Since I retired my wife and I have looked into seasonal volunteer programs, still talking about it! We have many friends and family members into the needles area. The restroom facilities area source of pride in "our" backcountry trips, most of our guests are in the 60-80 year old group. These restrooms are GREAT!</p>
<p>It is a very dangerous idea to force people to take useless OHV classes. Motorcycles should be prohibited on all offroad trails. All vehicles producing excessive noise should be prohibited in all NP areas.</p>
<p>We use OHV strictly as support for mountain biking. We strongly support leave no trace camping. We appreciate the great condition of the vault toilets. We think the campers using Canyonlands are very considerate of the environment.</p>
<p>I use an OHV to quietly get back into areas that are remote, few people, and enjoy the scenery and solitude.</p>
<p>I am a mountain biker who uses an OHV only for camping support. I hate motorcycle noise! Noise from one activity should not be permitted to unreasonably affect another activity. Silence is a major, irreplaceable resource of our national parks. I strongly support a requirement that all OHV be required to have effective mufflers. Don't let Canyonlands become another Yellowstone where winter snowmobile users over-rides and effectively precludes all other uses.</p>
<p>Awesome Park! Before OHV permits are issued a brief visual inspection of H2O provision for members in party, vehicle, trail worthiness, drivers knowledge, first-aid knowledge@ kit should be examined. A few new foot trails to view points and petrograph sites would be nice.</p>
<p>I strongly urge you to charge for all backcountry services. There are to many individuals going into the backcountry with no knowledge or skills. It should not be the burden of others to pay for their mistakes.</p>
<p>Seems to me, the off roading is pretty confined to existing roads (historic) that are well used. People seem to respect this limited access, so I think there is a balance. The campsites are limited and dispersed. I hope this isn't a study to close down what limited vehicle coverage there is.</p>
<p>I feel that day trippers cause more harm and are usually less prepared in the backcountry than overnight permit holders, especially in areas near Moab. I would also gladly pay \$25/night in the backcountry. I feel that the toilets are necessary as people will not be willing to pack out their own waste therefore leaving it in the backcountry.</p>
<p>I think you missed my use of st. legal 4X4 support hike/bike in remote areas. Access with kids and bikes. I loved the old wood/open outhouses the rangers are extremely helpful in Moab office with information. This survey felt biased to me with the questions being asked. Who would answer all without realizing what the question was looking for?</p>
<p>I only use OHV to mountain bike the White Rim 1-2 times a year. The rest of our Canyonland exploration is hiking.</p>
<p>the White Rim Trail seems like basically a dirt road with maybe 1 or 2 short sections that require minimal off road skill. If you drive the White Rim it hardly makes you an "off road enthusiast."</p>

Go Tigers!
I'm against OHVs. I only drove to the top of Flint Trail and backpacked from there. If I had any say, the Maze would be completely off limits to motorized travel. Backpacking rules!
I favor closing OHV roads to all vehicles in Canyonlands. I once walked from Flint Trail overlook to Spanish Bottom....no vehicle was necessary. In March 2009 I parked my jeep cherokee just beyond Teapot dome and walked into the Maze and Dollhouse after deeming the road dangerous and unfit for travel. These backcountry roads should not even be designated as roads. They should be open to foot travel only. The entire park should be designated and treated as wilderness.
I support good national programs and regulations I do not like that are not based in reality, good reason, and fact. I also believe in the role and mission of the Park Service but don't like feeling like I am being talked down to by staff who are not from this area and are merely reciting a monologue.
I live in CA and visit Canyonlands every spring. I have never encountered bad behavior in the park from any visitors. I have visited most western parks and Canyonlands in the west.
I am not aware of volunteer days or donating. CNP is a national treasure and we would definitely support a higher day usage fee if the money stayed in the park. The fees now are too low. Also the federal government needs to step up and support our parks and take money from the Defense budget.
I volunteered for the BLM and USFS as a college student and trained in OHV use then. I live in California now and only rarely get to visit the canyon country.
Did White Rim, Needles, and Horseshoe Canyon. Had a wonderful time! White Rim and Needle by 4x4 it was great! Will do it again.
Canyonlands is a special NP. I cannot compare it to other oarks I have visited re offroad experiences. I expect to go to Escalante next year to see how it compares. Some of the aggressive OHV users at Canyonlands that I have observed seem to want to make their own rules. Several times I wanted authority to ban them. Perhaps limited Ranger resources do not allow observation and enforcement, but maybe spot checks/visits could help compliance.
Magic place, keep it wild.
Some of these questions imply that 4x4 driving is for the thrill of the ride. Not so! Especially in the parks, 4x4 gives access to see and experience the country. (ATV's and motorcycles may be another story.) Total time for this survey : 1 1/4 hours mostly to review vehicle log books.
My experience in all three sections of canyonlands, and Horseshoe Canyon has been fantastic. I intend to visit 2x a year. I've never been asked to contribute. You should be more upfront about contributions.
I highly value the ability to access Canyonlands via OHV travel. It's great country that I wouldn't otherwise be able to visit with my family. I do support efforts to preserve the quality of the experience for all, and definitely don't want to do anything that would endanger my children's ability to have these same experiences in the future. However, limitations and regulations must be done with reason and balance. I hope we can work together for the good of all.
We are mountain bikers who have used the incredible trails of Canyonlands since the early 90's. The vehicles we drive are simply support vehicles for carrying gear and food for the bikers. We are not into stunts or daredevil activities-- the thrill is being in the backcountry and observing nature and passing through it as quietly as possible. We would love to see anymore loops or access like the White Rim trail available to bikers. (Also we totally appreciate the toilets- it keeps it so clean!)
In my life I have been to a total of ten National parks and I believe Canyonlands is perhaps the most beautiful.
NPS Ranger 20yrs, presently BLM ranger. I only drive/OHV in Canyon to support a group of Mountain Bikers. Overall I am opposed to OHV's, but certain existing OHV is acceptable.
The Maze is a very special place. I believe it is very well managed. I STRONGLY SUPPORT: Single party designated campsites i.e. guaranteed solitude, no fires: successfully averts accumulation of trash, no pets: obvious sanitation and wildlife benefits, only street vehicles: please NEVER allow ATV use in CNP-> that would ruin it! A charge I would like to see for other than first time permit holders (district specific), ability to secure permit online without visit to ranger station. Having to visit Hans Flat complicates logistics of Maze trips.
I would like to see no changes. If significant resource damage is occurring, the violators should be prosecuted rather than imposing additional regulations on law abiding park users. Also, many of the questions were so vague that they are difficult to answer accurately.
The current \$30 fee (for multi-day, 3 vehicle, 15p. Permit) seems disproportionately LOW for the services made

available (vault toilets, trail maintenance). It seems reasonable to charge \$30 for DAY-USE permit for back-country driving permit-it's a privilege. And then a \$100-\$300+ back -country OVERNIGHT fee for the multi-day, multi-vehicle group permits my friends and I enjoy each year. -Tom
Canyonlands N.P. offers mountain bikers an unparalleled, unique experience in the world. It should ALWAYS be protected.
You can charge more for a 4x4 permit. 30\$ is cheap for the services provided. Charge for day use-> these are usually the most uneducated drivers out there.
OHVing in Canyonlands NP is very rewarding. - Need to increase # of backcountry campsites -Need to allow camp fires @ backcountry campsites as long as you bring your own wood.
Being a veteran of foreign wars (vietnam) the privilege to operate OHV in are parks and in are Great country is just one of the many things are soldiers are fighting for. May God bless America!
I have found some staff to be very closed minded about vehicle access. The permit people in the VC have been fantastic with information. There needs to be better opportunity to report serious offences of others. You need to stop restricting access because of a few. I remember what it was before. Things are better now.
I'm not really an OHV fan. We used OHV's (1-Nissan 4x4, 1- Yukon 4x4 trucks) only to support our White Rim mountain bike ride.
With a friend we organize a 3 car 15 person 2 night 2 1/2 day trip around The White Rim. We have done this for 15 years. The toilets are ALWAYS clean as are the camp sites. Noise is not a problem. We stay on the roads and rarely see wildlife. The commercial outfitters are always polite and well behaved (we are non commercial) we have enjoyed each trip and have had no negative experiences. 30\$ fee is probably too cheap.
Being A backpacker for over 30 years I believe OHV should be used only to transport one to certain trailheads, and not used for recreational back country cruising. Thank You
The cost of search and rescue is extremely high. The lost or injured person should pay.
Increase fees to national parks! Look at what Disneyland charges!
I have visited 48 of the United States, and in many cases my destination was a national park. Canyonlands is the only one I have ever been to and was able to truly escape from all of the stresses of modern life. It is a truly remote place, which is probably why I enjoy it.
Love the White Rim trail because we can bring our OHV's on the trail, it allows us to bring our children (they can ride in the vehicle if they are tired) who might not otherwise be able to handle the long ride. It is a fantastic and beautiful! Place to spend time with family and friends.
The # of day use visitors driving the white Rim rode seems to be excessive. It would be nice to see a daily limit on day-use along that road.
We do the White Rim annually. We feel it is not much of an issue dealing with OHV's in this district of the park. There aren't many at all. (Aside from support vehicles for White Rim trips) OHV's would be undesirable to see in Island in the Sky. Specifically 4 wheelers. The rangers do a great job!
Canyonlands and all of the USA National Parks are the crown jewel. A better return on our tax dollars would be to make sure all the parks are properly funded by our dollars, instead of pouring those dollars down the black hole of illegal wars.
While I do not expect any NEW roads to be developed, I do think that ALL existing roads should be open to OHV travel, including roads that have been closed in the past. It appears that in MOST U.S. parks, they are slowly reducing the number of available roads (paved and OHV) until each park is left with only one or two. I STRONGLY OPPOSE this apparent reduction.
We primarily use our 4x4 to go to the backcountry. We do not use the vehicle for just 4 wheeling, we use it as transportation to get to the Maze stc. P.2 # 15- we believe you should not be driving at high speeds. P.4 #6- We only travel 1 vehicle 2 adults. We fully support the park and its staff and vacation there every year for the past 15yrs.
The jeep rental companies need to do a better job of educating their customers. We have run into many rental jeeps in the back country. They are generally rude, drive fast pass where there is only a 2 track trail and inconsiderately and usually off of the trail on the crust or vegetation.
Very mauect(??)enjoyed our trip. Being out of state volunteering impartial(??)/DIFIICULT.
When we visit every year, we always stay at Devil's Kitchen. Over the years, we have witnessed an increasing number of guided camping companies using the campsites. We have retired the "pay to play" campers with the tour groups walking around with little regard to designated trails. The tour guides do not enforce the Park Rules

<p>because it cuts into their "tip" from the customers. I would suggest raising a commercial camper fee. They generally max out the campsite occupancy. Because their campers have not invested in gear/vehicle, they do not respect the area as much as someone who knows how to 4x4. Because we have the 4x4, we do it often and therefore, are aware of safe/responsible trail driving. Keep the toilets, or the TP problem will become terrible. Thanks for Asking.</p>
<p>Keep Salt Creek Closed.</p>
<p>Canyonlands NTL. Park is a very special place and I have been going there since 1977. I've noticed that in the Han's Flat and Maze District, some of the NPS Staff and rangers feel that they own the park and that visitors are intruders. In some cases, they have been somewhat rude in their discussions with visitors. They should be reminded that they are paid by the taxpayers and that the NATL Park is owned by everyone.</p>
<p>I am not particularly fond of OHV use however getting access to the backcountry at Canyonlands require it. I believe in protecting Wildlife and it's habitat. I strongly believe that the Park Service DOES NOT charge enough for use of this incredible land. I would pay MUCH MORE and so would those who currently use the Park year after year for recreation. Thank you!</p>
<ol style="list-style-type: none"> 1. t! TRIES TO SAY TOO MUCH WITH TOO FEW WORDS. It becomes ridiculously simplified. 2. Closing vault toilets will result in very undesirable results. They are used by day users as well. 3. Fees for rescue/aid can result in NOT calling when it is medically necessary. Some areas have a voluntary insurance program for a bout \$10 that results in no billing for service. I believe this has been done on a statewide basis.
<p>If there were more campsites in Canyonlands but not in the backcountry more \$ would be generated to help protect the park.</p>
<p>Thank you for conducting this survey- It appears that OHV need to be heard and that we are on educated bunch. I volunteer as much as possible, have trained as a Utah Trail Patrol volunteer, In our beautiful Canyonlands, we must RESPECT the land- or lose it! Help us educate those that may jeopardize this privilege. GYO- 4x4 Clubs are perhaps the answer!</p>
<p>The back country ranger we met on the White Rim Trail last October was a credit to the NPS.</p>
<p>Ban all street legal vehicles (OHV's) from Canyonlands NP.</p>
<p>17. Strongly support limited use continues in areas already designated, such as Lavander Canyon. Further limits if necessary should apply first to commercial operations, such as large bicycle groups with support vehicle(s) jamming up Flint Trail. Canyonlands and Death Valley are unique in offering off-highway vehicle travel opportunity. Please keep it so.</p>
<p>I detest OHV's! Burning finite fossil fuel for recreation should be outlawed. America's health would improve if they would hop on a bike or walk. We use vehicles to carry camping gear but most of our group rode their bikes on the White Rim Road. This was my 9th trip.</p>
<p>We love Canyonlands!</p>
<p>Love the park. Love to explore and enjoy taking my jeep into canyonlands. I'm worried that a few jokers are going to ruin my access to MY National Park. Hate strict regulations b/c of a few idiots that restrict my enjoyment. Can visitors be ranked or rated based on classes and number of visits?</p>
<p>This is a great park! I plan on going to Maze District next spring. This year I did Island and Needles, absolutely awesome.</p>
<p>Hiking is the highest recreational value in CNP. OHV on existing trails only, best for access. Is Salt Creek recovering will it open in future. More backcountry backpack campsites.</p>
<p>For whatever reason, the administration in Canyonlands, especially those stationed in the main office (MOAB) are really not helpful. You get the feeling that it is "their" park, and they really don't want you there. So different from the folks at "Atches", for example. There is something wrong at Canyonlands!</p>
<p>I am currently an NPS employee, working for the Grand Canyon Trail Crew, and have been for the last 18 months. I LOVE CANYONLANDS NATIONAL PARK and am very pleased with the management I have seen in the Island I.T.S . And Needles districts. Keep up the great work, keep out ATV's and non-street legal vehicles. I wish you hired me for recent trails postings.</p>
<p>I do volunteer trail work, but never heard of anything in Canyonlands.</p>
<p>We didn't stay at a NPS campground during our stay.</p>
<p>Thanks!</p>
<p>We use just White Rim Road and are very respectful of noise, erosion, and all impacts. I generally disapprove of</p>

generic OHV usage except for access. There is plenty of wasteland for fun else where.
I strongly oppose the closing of the 4wd road in Salt Creek leading to Angel AROH(?). This road has been open for years, is in a wash, and closing it doesn't make any sense from an environment point of view. -PP
We see a big difference between 4x4 vehicles that stay on backcountry roads and OHV's that SHOULD stay on designated backcountry roads but often go cross-country. The difference, of course, is in the attitudes and values of the drivers. Utah, a gorgeous state, is criss-crossed with OHV trails made by drivers who think of themselves first and have no caring for the land and wildlife. It's interesting talking in N.P.'s with visitors from other countries- they cannot imagine why OHV use is permitted in such fragile environments.
Driving the White Rim Road in my 4WD vehicle was a considerably GREATER challenge to me than I had anticipated. Fortunately, I had the flexibility in my vacation schedule to spend several days better equipping my vehicle and practicing on easier roads (eg. Shaffer). I believe there should have been some kind of simple, self administered "screener" test given everyone who applies for a backcountry permit on Canyonlands so we/they can accurately assess our ability to handle the roads most challenging aspects/portions. If I had been more rushed, I might have gotten in trouble.
I had an excellent time in C.N.P. If anything, I would like to see a few more OHV trails. I also think C.N.P OHV should include non-street legal dirt bikes and 4 wheelers.
You have one of the last Places on Earth to see. Protect it. Do Not let it Go Away you know what I mean if you have been there.
We spent 4 1/2 days driving The White Rim Road in late May and absolutely loved it. Weather was bad, which helped by keeping the crowds down. Campgrounds were great. My first OHV experience-scary-but luckily we had enough experienced drivers. Thank you!
Canyonlands is an absolute treasure! Everyone with a desire to see and explore this area should have to opportunity. Non-motorized and motorized opportunities should be structured to address public demand by numbers of actual users/participants of each. By its very nature motorized transportation covers exponentially more geography when walking, hiking, a factor that must be addressed. To restrict larger and larger numbers of motorized recreationalists to smaller and smaller areas of usage is nonsense. I also feel very strongly about rescues. It should be very clear that personal responsibility prevails- you go unprepared and get in trouble you pay personally. There is no reason in this world that I should be forced to subsidize by paying for someone else's rescue.
Canyonlands is a wonderful National treasure which should be open welcoming for the public to enjoy. With some oversight to protect it for future generations.
Noise is a serious concern in Canyonlands National Park, especially for those who Lnoise(?) not to travel by vehicle. ORV groups should be limited in size to reduce noise and inappropriate behavior. Leaving some roads in "primitive" condition allows some areas of the park to remain relatively wild and uncrowded- do not "upgrade" these roads.
People who use the park should help pay for its maintenance. I would be willing to pay DOUBLE the current permit fee. Charge more....Don't cut services! Thanks
The ranger orientation and literature I received before traveling into the Canyonlands were very important to gain local knowledge of Health, safety and environmental issues. While the TreadLightly! Information is by nature general, when combined w/the ranger orientation and local literature, one can traverse the park safety and w/minimal impact to the environment. Please see additional comments alongside some of your survey questions. Good luck with your research.
I enjoy Canyonland N.P. I live 20 hrs away and can not get back to volunteer(?).
Please don't close the OHV Roads we love and Respect these Areas And would pay more to support the program and maintnace. Thanks
I know staffing cost are probably erasing ability to increase surveillance/policing and enforcement and education BUT have noticed in the last 25 yrs, the White Rim trail road is getting even WIDER. Seems like lots more large guided tours with a party attitude.
Beautiful place and access should be carefully controlled in primitive areas.
I want more roads and more access to camping and hiking.
A 4x4 truck tends to stay on the track and not drive all over the vegetation like those new 4 wheeler things do. The

<p>toilets are less important than well informed visitors. If visitors were well informed and conscientious. Thirty years ago I saw off road 3 wheelers do great damage to the vegetation and I hope I never see that again. Elephant Hill is famous and brings lots of people from all over. That's alright as long as they turn around and go back over without driving all over a sensitive area attached or near. Park and walk if you want to see more. Camp intelligently and go only as far as you can. Let's take care of Canyonlands.</p>
<p>The questions on page 2 #9 are poorly written. Canyonlands NP should require reasonable environmental & awareness education for all over night and day use 4x4 in cnp. 4x4 use can carryout its own garbage and human waste and carry in firewood and carry out ash, unlike backpackers educated aware 4x4 use in the Park can be a most low impact use in the NPS takes the time to make 4x4 users aware of how to proceed in a low impact way. The nps should create more 1 camp situations. Now most 4x4 camps are way too close to other 4x4 camps. No privacy no wilderness experience being crowded next to other campers. 4x4 users are seeking a wilderness experience in the Park. Those types of 4x4 users should be encouraged by the park. Thrill riding on the trails is NOT an appropriate use of the 4x4 trails. Give us the chance to have a 4x4 backcountry wilderness experience. 4x4 camping can be low impact.</p>
<p>We have a dog so we were not allowed to go where we wanted to so we left.</p>
<p>My dad and his brothers started going down to Southern UT. Right after World War II when they bought used jeeps. They went several times each year and brought our family along while we were kids learned to drive on dirt roads. I remember going when you didn't have to get permits just showed up at Ranger Station. I do agree to require permits to make more enjoyable times. When we first started going in the 70's you rarely saw anyone else.</p>
<p>The rangers at Islands in the Sky are AWESOME. Thanks!</p>
<p>It was our first visit to the park and will plan to be back In the future!</p>
<p>We rode the White Rim Trail on our mountain bikes last spring(May), and were supported by 2 4x4 trucks. It was a great trip! The NPS has got to keep allowing the opportunity for people. What(??) a beautiful and remote country that is only available to people using OHV's for support. Thanks!</p>
<p>1. Canyon lands NP is a great place and I think it is quite well managed now as it limits the number of people in any area. 2. This is a typically naïve college study of very little value. Some of the questions are useless such as 11-16 which are too subjective. You can't draw sound conclusions from these types of questions even though college students will and will mistakenly think they have achieved something useful.</p>
<p>results of this survey reflect my information as the questions were presented and directed toward visitor experience, yet I am a seasonal employee of Canyonlands National Park Needles District.</p>
<p>I went there with a friend. It is a beautiful park with lots of incredible scenic views and wildlife. Given the current vehicle that I am driving. I don't plan on making any other off-roading trips in the near future.</p>
<p>Keep Roads and trails open for public use. I use my 4 wheel drive vehicle to mainly support mountain bike activity.</p>
<p>I think there should have been a way to determine between those who OHV as an end (drive junkies) is those who OHV as a means and an end (hiking) as the two have differing values.</p>
<p>I enjoy exploring the backcountry of Canyonlands National Park. I use my OHV respectfully to take me as far as possible & to allow my children to see the beautiful sights of the park. We then explore further on foot, on designated trails. Please allow this to continue. Please do not let the poor choices of a select few limit the possibilities and growth experiences of those who love Canyonlands National Park.</p>
<p>My OHV experience in Canyonlands NP has been several trips on the White Rim and one trip into The Maze section. Our purpose to use a OHV was to be able to access the area to ride mountain bikes. I would like to see other campgrounds as those in the White Rim section in other OHV accessible areas.</p>
<p>I mainly drive my truck to a back country campsite to get away from the population of the park: After 20yrs of using Canyonlands in this way I strongly feel there should be individual MORE "drive in" sites- A short distance from main park roads - for individuals- not groups and from there you walk. I think those noisy ORV that are there just to drive around and party should be eliminated from the park - (60 to BLM lands). More Park preservation. These short distance "in" sites would be easy to access for monitoring and give more wilderness- (perhaps just open them weekends -> to reduce cost. * Park Rangers and volunteers need to have better and up to date info about roads, ESPECIALLY in springtime!</p>
<p>Many of the statements as worded were difficult to respond to in the required format as the appropriate responses may depend upon fact or circumstances not addressed in the statements.</p>
<p>If training will be required, would prefer to have on-line training video. Would also prefer online reservations for</p>

permits and camping and ability to make online reservations up to the day of arrival.
Please know that most OHV operators play by the rules and wish to protect the land and wildlife. My family and I love Canyonlands and are grateful that the NPS provides access for OHV's. We are also very supportive of having areas only accessible by foot (ie Chester Park). In our opinion, Canyonlands has found the perfect balance between motor and foot traffic. Thank you. PS. Keep the motorcycles and ATV's OUT! Street Legal 4x4's only Please!
FYI-Our OHV use was a support vehicle for mountain bike riding.
I have spent much time biking in Canyonlands. I will in future climb also. I use many national parks and try to onserve all rules. Spending many days each year in national parks I try to leave no impact. Climbing biking etc does impact our national parks. Dale Browning.
OHV destroy the environment, keep out of park OHV should not be allowed. Street legal only on roads.
The increasing fees for OHV/Camping in Canyonlands make me rethink camping/OHving there.
The White Rim trail is a once ina lifetime experience. Without OHV mountain biking the trail would be almost impossible. It is a privilege to be able to do this. I believe it is our responsibility to be as careful with the environment as we can to have the least amount of impact. Abuse happens and it is up to all of us to educate/communicate to others what a privilege this is. Education is the key. P.S. I taught outdoor ed-in elementary school!
My only use of "OHV", was as a Sag Wagon for a group bicycling on the W.Rim. I do not operate a "OHV" [in this case, my toyota highlander highbrid] off road an any other way. I make the assumption that the W.Rim trail is "OH", though it is an old mining road.
This survey is poorly written and appears leading in its questioning methodology.
We rented a jeep in order to travel into the Maze district. We don't think we'll do that again fa same time as we live very far away and would like to visit other areas of Souther Utah. We love Canyonlands and have visited 6-7 times in the past 15 years. We would volunteer if we lived closer.
I use 4x4 street legal vehicles. I have lived primarily in 4 corners colorado plateau for 25 years. I do not particularly care for OHV vehicles in general. I would prefer them not used at all in most environmentally sensitive areas. I do however support other peoples rights and choice of recreation, if it can be done without destruction of environment.
Yea, you finally got me to respond!
Due to the weights, speeds and resulting high forces involved, the nature of OHV use is for it to be highly erosional and disruptive to the landscape. Due to the noise generated and speeds involved, OHV activity is descriptive to the ambience of the use area, as well. Therefore, OHV's should not be given access to all areas, and should let excluded from some of the more pristine and sensitive areas like Salt Creek.
Love Canyonlands NP. Actually would like to see more permit requirements. Sometimes too many people on ATVs, Jeeps etc. The White Rim Trail is well managed - but can be busy.
My husband is a transplant recipient and we can only view areas a short distance from roads or OHV trails. He does not have the energy or physical stamina to take long hikes. If OHV trails were closed, this would close those areas of the parks to my husband and many other physically challenged and older people. (e: The Needles District)
My use of an OHV in Canyonlands NP (or anywhere, for that matter) is simply a way to get somewhere to hike, camp, etc. I do not drive off-road simply for fun. To me, the most important thing is the wilderness experience. If increased regulation (i.e., noise regulations, groups size restrictions, increased fees, decreased permit #s, etc) resulted in a better wilderness experience and better resource protection, I would accept it gladly. In particular, I would be happy to see greater restrictions on day use of the roads, particularly in the Maza district.
My husband and I really enjoy the "White Rim Trail" and "Maze District" on two occasions. Having one group to a campsite at far distances from each other really made the experiences more enjoyable. Although when we came last year to the "Maze" there were a group of canoers that took our spot at the campsite down by the Green River and mentioned that the canoe registration said they could camp anywhere in Canyonlands NP area without a permit. We think this should be something that should be worked out w/canoers to make sure no conflicting groups share a site. They were being really stubborn on leaving the camp so we had to move!
Closing the backcountry vault toilets might cause people to use a bush or a tree as a bathroom instead of packing it out. I think backcountry campsites would be littered with feces.
Anyone who practices common courtesy doesn't need Tread Lightly. I don't mind trails being limited as to # but do resent not being able to access them at all.

BICY

I think designated trails really limit our experience in the Everglades.
Riding ATV with proper size tires does not harm vegetation. You can only run over grass. The only time this will harm vegetation is if you have to run the same trail over and over. Also disable people who can not walk in tall grass, deep water or mud should be able to get a permit to ride a ATV to a tree-stand to hunt.
Vehicle restriction/requirements are out dated and un-supporting. Tire width is irrelevant and has no scientific basis equipment rules are outdated.....for street legal 4x4's.
Extension of the # of years between ORV inspection requirement. Instead of every 3 years, make it 5.
Family has enjoyed ownership of five acres in Big Cypress- occupied since 1953- purchased in 1961.
I only use my ORV to get to John Stephens Camp. It is really sickening to see how the ORV's tear up Big Cypress, instead of staying on the paths, they just go where they what to. They should be caught and not allowed back in the preserve I know of one person on a swamp buggy that says he will go and do whatever he wants and I know this for a fact.
Big Cypress is overregulated and has gotten away from the original intent of the preserve when it was created. Traditional gladesman culture has been pushed aside by a few well financed organizations claiming to be the majority's view.
I feel very strongly that the NPS should raise the annual registration fee. Use the money for trail markings and maintenance. Trails sometimes are not well marked. Keep the limit @ 2000 permits. Open more trails and enforce the rules concerning off designated trail violations. For the most part my family goes to Big Cypress because of the openness and real beauty.
The BICY rule prohibiting buggy chains too broad and results in unintended consequences. The rule promotes uses of aggressive tractor-type tires. These tires have hard lugs which have the potential to adversely affect native vegetation and soils on a year-round basis. Tractor tires also give the operator more confidence to travel through areas they really shouldn't (like prairies). The "no chain" rule discourages the old standard which was smooth treaded airplane-type tires. These tires have very low ground pressure and no tread which results in minimal disturbance for the majority of the year. Small-diameter "grass chains" are only needed with these tires during the brief (6-week) dry down at the end of wet season. Adopting an exclusion to the "no chain" rule for small diameter grass chains on airplane-type tires would encourage use of smooth-tread tires and result in far less disturbance to the preserve on a year round basis. There should be an ORV weight limit in of tire surface. NPS has the equipment and personnel to evaluate this at inspection. Such a rule would result in less disturbance to the preserve.
I think tractor tires and swamp buggies weighing more than 3000 lbs are the biggest cause of damage to the terrain. Tractor tires dig deep ruts. A light vehicle can cross the same area many times before breaking through the soft surface, but a heavy vehicle with tractor tires will sink into soft ground and dig ruts 4'-6' deep on the first pass.
I disagree w/some of the new regs. A. no driving after 10pm. Most people have to work when they get to the BC it is late and most camps are 2 or more hours in. B. No one under 16 can driv an ORV. This should not include The Turner River and Corndance Unit you can not physically drive over 5mph in these areas. It should be left to the parent to decide I was riding and had my own ORV at 13, my son has had one since 8 yrs old. But cant use in here.
I think it's a shame that my 3 year son and 1 year old daughter will never enjoy the park, like I have since I was there age When NPS finalizes the trail system. I donate 50 dollars every year by purchasing a permit. How much money does NPS collect from countless Hiker's, photographers and bunnyhuggers when they utilize the park for free. NPS does not maintain designated trails, now they want my help? NPS and all its anti hunting organization affiliates will not be happy until every last buggy and hunter is removed from the park. ORV permits need to have preferences for people utilizing them to hunt. More times than not the joy riders are tearing up the park turning it into a mud track! If you want more comments supply more paper next time.
When the Big Cypress National Preserve was created, it was designated as preserve because it allows activities not allowed in parks. Congress stated the lands are to be managed for recreation and expected to be used hard. Allowing ORV use on roads and trails will be very useful to manage the land, control fires and exotics.
Perhaps a two year refresher course on wildlife, plants and disposing or rubbish should be instituted every time your ORV comes up for inspection.
Decrease regulations and decrease # of ORV permits in Big Cypress. Trail areas are so minimal in the area, vehicles

<p>should be allowed to travel freely and responsibly away from trails.</p>
<p>Don't take this personally but this comes off as what you can get away with instead of finding out how to best serve the people in using what is ours to use as we see fit. Consider what impact wildlife and vegetation has on us today..... Look, is someone is trashing the place, run them off and let us use our common sense to use our freedoms. This survey comes off as -what the NPS can get away with and confuse us by trying to by me out how to drive across the Earth without running over vegetation. There are not that many of us that wants to use it. I have a headache-</p>
<p>I worked in B.C. as a wildlife officer prior to gator ally. 1963-1968. I find more damage and disrespect for the land from ATV operation than buggy operation. Strict enforcement of aggressive operating (speed,spinning donuts etc.) should be taken against violators.</p>
<p>My trust and respect for the NPS and its staff in the Big Cypress National PREESRVE is low because of numerous betrayals on their part. Congress guaranteed traditional uses (in the enabling legislation) which inclined ORV use in the BCNP. The NPS has tried to remove ORVs at every opportunity and illegally declare large areas of the BCNP as wilderness (there by elimination all ORVS). Managing the BCNP as another National park is clearly CONTEMPT of congress.</p>
<p>8 guys in our hunt camp all have 4WD full size truck/buggys. We stay on traditional roads yet do reasonable exploration for hunting reasons. We STRONGLY resent the 4 wheeler crowd as they are law less, unconcerned about the woods, and not above entering our buildings if unattended. It seems to be a latin way as your law enforcement results will very, 4 wheelers are our enemy.</p>
<p>I would like to return to designated trails, the way it used to be. There are too many people & ORV's in a limited area and I do not enjoy it as much as I used to. These are our public lands that require and ORV to access them and the designated trails system severely limits public access. This is a fire dependent ecosystem and if proper weight and tire considerations are used no ORV damage occurs. Fire is more destructive than ORVs. The vegetation grows back after Fire or ORV use.</p>
<p>The idea of designated trails is not a good solution to environmental damage caused by ORVs. By forcing everyone to use the same trail causes more concentrated damage. The NPS's use of fill to make these trails alters the water flow more than a normal trail would. The NPS does not know how to properly manage the Big Cypress. The area has continued to decline under their rule. Designated trails cause all the human impact to be concentrated around the trail making it highly visible and more damaging.</p>
<p>I do not believe ATV riding bother's the wildlife at all. The HUNTERS do, they kill the wildlife.</p>
<p>I really enjoy BCNP. I love the nature and the ability to camp in such wonderful country. I need to know more about the Tread Lightly program. RJ is a good ranger. Very helpful staff.</p>
<p>Big Cypress has become unfriendly to hunters. Burns camp originally a hunters camp ground has become a regular camping area. We have encountered many hosts that make up rules to keep out hunters. New trails (ORV) at burns camp have not been graded and force ORV riders of the trail. Grade trails are closed.</p>
<p>For the last 41 years, the Everglades and Big Cypress National Park has been my playground and anything to protect it sounds good to me.</p>
<p>Survey should have separated ORV's into two groups- buggy use and ATV use- 2 totally different groups of people. Hunters/city people. Some questions put hunters in a bad light. Cannot lump us in with ATV's- we travel at a walking speed on a buggy. We enjoy the woods all year- it's a beautiful place.</p>
<p>Keep up the good work; Education to all who ride in BICY. Is the key to keeping us all safe and protecting the environment for the future generations.</p>
<p>I started enjoying the Everglades in the early 60's long before the NPS came in and started changing it. Such as killing all hogs because they are not native to florida. They have only been here since the spanish came. You can not find a hog where I hunt because of this. So much for putting things back as they were before man came. Can't shoot off of a buggy platform at all. You have to stop your buggy, get off and then you can shoot, but only after you load your gun since you have to have your weapon cased and unloaded while on a buggy. Why would you want to antagonize the very people who by activity help to pay your salary. I love the everglades and do everything I can to preserve it. Not because I have to but because I want to. I enjoy it's beauty and have taught my boys to respect it, always. Too many areas have been closed to traffic already.</p>
<p>If I was sure where the money was going I would donate. My biggest concern is that the designated trail system will leave a very large portion of the Everglades inaccessible to all but the most hard core and healthy people. I am</p>

<p>getting old and crippled with age and injuries as a retired firefighter. I cannot hump more than 1/2 mile to hunt with my gear and expect to be able to harvest any game animal and get it back to the truck. The designated trails need to go much deeper and farther into the glades. What happens when I get to the end of the trail? Do I abandon my expensive ATV with a cluster of others and work? Why is gumslough no where near a trail? PS. 95% of the Stair step Section is inaccessible to anyone!</p>
<p>-Stick to the rules under which the government bought the land. - The rangers are not trusted because of a few bad apples. Arrogance is just a cover for not knowing the rules. No one needs their bad attitudes. - If rangers got out and picked up trash & required roads, I am sure often people would help. They need to set the example. They set a poor example now!! Only again this is probably a couple of bad apples not all. Thank you!</p>
<p>People really don't understand the Big Cypress mud ruts left by ORV's are not necessarily a negative input. They hold water for animals longer in the Dry Season. Also create paths for animals to travel with ease. In the wet season they fill back mostly is not completely and vegetation grows back in most the spots. My opinion is the Park Service is trying to 'invent' science so as to have complete control of our land.</p>
<p>NOT! To make all of Big Cypress designated trails. Stop closing off areas for use!</p>
<p>I've hunted the Big Cypress for years and I have observed that educated man has harmed the cypress way more with his canals and dikes than what ORV's could do. To the contrary loggers have cut logs out using heavy equipment making roads and often ruts in which driving dry season there is still enough water in the ruts to maintain minnows and crawfish that all kinds of wildlife and birds feed on. Also from one year to the next vegetation will grow back. As for the park rangers, there are good ones and bad ones, they can help you or be indifferent. I know of one hunters camp being burnt and he was called to come get his camp equipment. When he got there, the rangers or helpers had taken all his equipment.</p>
<p>My family has hunted in the Big Cypress for over 50 years. Currently own property in the Corn Dance Unit. We appreciate efforts of the NPS to protect and preserve the Big Cypress as a place for families to enjoy our national resources. I hope my children and grandchildren will be able to experience the Big Cypress as I have for many more years.</p>
<p>I personally think that the rules as they are now are fine and see no need to change any of them. The staff has always been friendly.</p>
<p>Please open up an entrance off Alligator Alley so we can stay in our Self contained RV's for the weekend with our grandchildren so we may teach them the things that we have learned in a good, clean, environment,</p>
<p>Plain old common Sense! The limit of 2000 ORV permits may excuse folks like myself and my group, who are conservative outdoors man, and respect wildlife and plants, etc. WE also pass this onto our kids and grandkids. I can promise you not all the permit owners who will make the 2000 limit draw do not and will not respect the lay of the land. The 2000 limit is not close to being fair or appropriate. This will slant the system toward the abusers. Remember by congress-Traditional Rights!</p>
<p>Ban ATVS!- Ban their riding the roughs and destroying habitat ORV's need to stay on established, essential roads.</p>
<p>The biggest problems I have observed with ORV's in BC is too many hunters hunt from their buggies. They "ride the roughs", either to show off their buggys ability to traverse challenging terrain, or to scare out game for the kill. Rules against this damaging behavior need enforcing. Otherwise, designated trails must be established their use enforced. I believe it is (or would be) n ot too difficult to follow a tread track from a violated area to its source, where a penalty could be and should be meted out! The rapidly expanding use of ATVs in the BC needs special attention!</p>
<p>In the past couple of years I have submitted 4 similar surveys pertaining to Big Cypress. I am concerned about the man hours and dollars spent on these projects. It appears as though little or nothing positive comes from it. The addition lands continue to be closed to access. The NPS still threatens to restrict ORV access. Tons and Tons of alien Rock have been introduced for designated trails maleluca and pepper trees continue to thrive!</p>
<p>1-Bear Island Should have more trails! 2-The rest of the trails are so rutted out from swamp buggies, atvs have a hard time. 3- all trails need to be maintained better.</p>
<p>Plenty-send me your email address.</p>

<p>I have enjoyed the Big Cypress all my life! Long before there was a Big Cypress national Preserve I owned my property and cabin. My cabin is accessible ONLY by swamp buggy. I will always do all I can to help preserve the spirit of this vast beautiful wilderness. My children and grandchildren love it too! The BIGGEST destroyer of the trails are the 4-wheelers!!! Swamp buggies travel about 1-3 mph the four wheelers literally FLY. Tearing rock and soil.</p>
<p>It is the only place to ride down here. Lets not screw it up.</p>
<p>Thank you for including me in the survey. I have been involved in the ORV community for most of my life and belong to Jeep/ORV clubs in Nevada, Utah, Canada, Vermont and Florida. Spend a week every year enjoying the trails and scenery of MOAB. I feel that Big Cypress has lots of potential for increased ORV use if done properly. Currently the ORV area for street legal 4x4's is very small and could be why Bear Island see's above average environmental impact. Thank you again for including me in the survey and I look forward to your results.</p>
<p>Next year make survey available online. More accurate.</p>
<p>More security out in the feel, too many individuals not following the rules, being where they shouldn't be and littering all over. Also existing camps should be monitor more often specially at night. Thank you.</p>
<p>Increase the amount of ORV permits. 2000 is not enough. Even on general gun opening day. There is not (even close to) 2000 vehicles in the park. Pedro 305.215.2429</p>
<p>Tread Lightly! Is a good organization. Driving in Big Cypress is a nice adventure from the city but must be treated with respect. I will agree that many people abuse the park and feel aggressive driving is acceptable. This aspect should be controlled. There are cases where driving off a trail is the only option b/c of an obstacle but care must be taken when doing so. It would be nice to see more trails available but used in a positive way, not aggressive!</p>
<p>ORV's are a way of life in Big Cypress. The National Park Ser. has ruined it for many visitors. Several areas are closed and were supposed to be open several years ago. They seem to have an attitude of less visitors inside the park the better. I am very disgusted with their management of the park & feel that the state would do a better job.</p>
<p>The NPS has forgotten that it has already set aside over one million acres in the Everglade National Park where no ORVs are permitted. Now it wants to effectively do the same over-regulation of ORVs in the Big Cypress. Contrary to the enabling legislation under which this land was deeded over by the citizens of the state of FL. Moreover, among many other recreational uses, ORVs/buggys were specifically included as they have been used since the 1800s. As a native Floridian, I have watched my rights & usages dwindling over the years both in terms of cost of use and regulation designed to discourage use. I fear that one day the Big Cypress will become exactly like the Everglades National Park.</p>
<p>ORVing in the Cypress is our heritage that should never be taken away. NPS needs to work closer with the FWC in managing this wonderful resource.</p>
<p>We own property and the only way to get there is by swamp buggy 12 miles one way. The property has been in the family 1952 camp #A02-52</p>
<p>I have enjoyed the NPS in South Florida my entire life. However in recent years I have seen more and more restrictions placed on responsible users of the resource. While I do agree with some of the limiting laws imposed on users I am annoyed that there are thousands of acres of public land that we are forbidden to drive or walk on. i.e., New Lands and National Panther Preserve. Thus my lack of confidence and respect in the NPS.</p>
<p>To better have place for all to enjoy a volunteer program needs to be put in place and if there is one, more info is needed. Thanks.</p>
<p>I ran ATVs regularly in the BCNP from 1982 thru 1984 until use was banned in the '80's. I moved from South Florida to North Central Florida in 2007 and purchased a new ATV. I ran it in the BCNP last hunting season and this hunting season, but only a short visit because I primarily hunt north central Florida and Georgia. I was impressed with the maintenance and marking of the ORV trails. I would like to see additional access points on US 41 in the stairsteps, and on Tumer River in the Tumer River Unit.</p>
<p>I think park rangers should give warnings first time doing something wrong and open all access trails!! I am a camp owner, I wish they would let us drive buggy a quarter of a mile around camp.</p>
<p>It would be beneficial to us to be able to access the Bear Island Area via the Bear Island grade from S.R. 29. For those of us who live northwest of the preserve it would save fuel & we wouldn't have to trailer our jeeps. It could potentially save wear and tear on Turner River Road too. Thank you for considering.</p>
<p>Page 3 "access to otherwise inaccessible areas." Many of the questions are generic. They of course do not permit qualifications based on ones experience regarding the above quote, if an area is "inaccessible" to me that means it is unreachable. My answer, to qualify assumes you meant remote. I use my buggy to reach remote areas of the</p>

<p>preserve where it is not practical to walk and transport camping gear etc. Since the entire preserve will be on a designated trail system, best management practices must be used - but, there will always be some impact to the surface on trails.</p>
<p>We always ride on the Jet Port property. We have yet to venture any further, but we enjoy it non the less. My family has a camp on Jet Port property and we have been going out there all my life. We respect the environment & encourage others too as well!</p>
<p>The trail system is not adequate for hunting. Not enough trail heads. Secondary trails should loop not deadend. Buffer zones should be eliminated. Not enough time to critique the GMP</p>
<p>Pointless</p>
<p>Page 1, line 7: Every time I go into Big Cy I police and pick up anything and everything from my camp, the designated trail and parking area on Turner River Road. The most I've ever picked up was 2 - 16 oz. water bottles, 1 - ramrod, 1 - boot, 1 - beer can. I run the Concho Billie Trail and I must say: The tru outdoors man/buggy guys are not out here to trash the place.</p> <p>I donate 50.00 per year, but can only use Big CY 9 mo. Per yr.</p> <p>I have never been notified by NPS about any trail clean-up or maintenance program!</p> <p>Page 2, line 4: If I'm on a des. Trail, (a man made rock road) I don't have to worry about plants. Being on a ATV I'm not going to run over a deer, gators, and turkeys & birds.</p> <p>Page 2, line 5: I do not think ORV traffic bothers wildlife, why? If motor vehicles bothered wild life, why is there so much road kill on manmade highways. Many times while in the Big Cy I had to stop and wait for gators to move off the trail and just as many times I've had deer, turkeys and even a panther! Just sit and watch me drive by. These animals are not helpless or stupid, they know exactly how close you can get to them, and they know exactly when the hunting seasons open. They also know that a swamp buggy track or even a heavily use human trail makes for very easy walking. I hunt Sept thru Dec, so I have a good trail of foot prints to my stand. I'll walk in before sunrise, come out at noon. I'll see tracks of deer, turkey, and panther in my boot prints from when I went in!</p> <p>Page 2, line 9: Public lands? How do you define public? The tax paying people of the USA or a few people that think they were born to save "the world". The politics behind this subject is too deep to address at this time.</p> <p>I'm in the tourist business in the FL Keys. I've ORVd the Big CY for 20 yrs. I watch tourist look at our buggies in awe. When they start out hiking a trail, the bugs get them, the waters are too deep, and they run for their cars! I've never seen or heard them complain about a swamp buggy trail.</p> <p>I do believe it is the right of a tax paying citizen to use public lands. Remember, tax payers work all week, we only have weekends to get in the back country, so we use buggies. NPS people get paid!, to hike the back country</p> <p>Page 2, line 12: If you are a true outdoorsman/ORV operator you are in the Big Cy to see wildlife. You will slow or stop to watch. Sorry to say, making designated, graveled, trails "is" inviting the unwanted few come with go fast machines that just want to sling mud and go fast! I truly believe designated gravel roads are a very bad thing in Big Cy.</p> <p>Page 2, line 13: I have to drive 113 yards into my camp, off the trail. After the 2008 season, I decided not to use that path in 2009. After the season closure and wet season I came back to my camp in the fall of 2009, I was surprised to see my 2008 track was filled in and grone over. If your not into tracking, you would not have seen it. But guess what? The designated rock road trail didn't go away!</p> <p>Page 2, line 15: Scouting is important. During the wet season in Big Cy you can drowned the biggest buggy. Not to mention an ATV! If off road in the Big Cy, the average speed of buggies & ATVs is about 2.5 MPH. Know, build a gravel road, call it a designated trail and you just invite the go fast crowd that doesn't care. Speed limits do not count to these guys!</p> <p>Page 2, line 17: Agree 100%. If you put us, ORV people on a designated area, anyone else should except that fact and not complain about noise. Why. There lots of places were we have been banned. Go there to hike.</p> <p>Page 2, line 19: I have never seen any NPS information stating this in Big CY.</p> <p>Page 3, line 10: Sport / aggressive driving. Like I've stated earlier, off roading in Big CY you're ave. speed is 2.5 mph or less. When you build a gravel road you are inviting the go fast guys with racing machines that aren't here to enjoy nature. These guys come to tear it up, sling mud, drink beer, and to see how much damage they can do in a day! That's the badge of courage! Stop making roads!</p> <p>Page 3, line 10 (other): I go to Big CY many times a yr. Not just for hunting, but just to get away. Being I only have 2 day weekends it is required buy time to use an ORV to get into the back country. Unlike NPS employees how are paid & giving gear to explore on tax payers time.</p>

<p>I've talked to many NPS people. Biologist who think a swamp buggy track kills the world. "Q" What did US highway 41, US Highway 75, and how many hundreds of mile of designated man made rock trails do to the Big CY. Remember, one season closure & wet season, most buggy tracks go away. Highway 41, 75 & gravel roads are there forever.</p>
<p>Most of your questions are one sided and are vague.</p>
<p>Note, I am a landowner in the Tunner River Area. My parents owned this land before it was Big Cypress Preserve, we sold all but 3 ac where there is still a improved camp including buildings. Now my sons & grandchildren us it. I have been ORVing in the Big Cypress for 50 years. I have and still go to the ORV advisory meeting. I agree there should be a reduction in trails but not to the point to stop normal use of the Everglades, there already has been a reduction of trails since 2000 aprox in my opinion 60%. Let's not go to far. There are people's opinion that there should be no use by ORVs but the charter in the beginning of the park was for use by ORVs. Again, I am a land inholder and try to abide by all Big Cypress Park rules. Let's not squeeze us out.</p>
<p>I receive tread lightly by email. I also am retired from Hardee Co sheriff Dept. FL & cooperate with park service any way I can.</p>
<p>I have been enjoying our woods for over 20 years or better, and I'm a strong supporter of the ORV plan. In my endeavors in the park throughout the years have seen a lot of irresponsible behavior and or ORV use by others and discourage it although I believe as far as Bear Island Unit some trails need to be opened to alleviate were and tear of back and forth travel on some trail. Complete the loops.</p>
<p>I do a lot of hog hunting. Improve the land stop trapping. Let us hunt them. The game is thind out. Thank you.</p>
<p>I would like a place to ride my ATV where there is a place to ride all year around for I lived in Naples 50 years</p>
<p>Please see attached memo as it pertains to many of misconceptions outside agency's have about the Big Cypress. There are already rules & regs on ORV's that the park service themselves overlook. Such as 9" size & width tires. Quads & some side by sides do not have this feature.</p> <p>Hi, my name is XXXX. I'm a "Gladesman", a father of four boys, a third generation Floridian and very active in the outdoors, especially when it come to The Big Cypress. I have received your questionnaire and am appalled at the repetitive use of "volunteer work" and the "donation of money's". Please excuse my getting to the point attitude, but we Gladesman are at the loosing end of the pen. It appears as though the general public and college educated have a better scence of the outdoors. The Park Service has yet to ask Clubs or Organizations to volunteer for any such clean-up or trail maintenance, as this involves a certain amount of liability. On that same note, they don't hesitate to let the Boy Scouts or The Florida Trail Association clean trails, paint trees, cut trees for benches, and drive nails into trees to hold labels and signs. All except cleaning are subject to fines by all other users of the BCNPRES. I also couldn't help see a repeat of questions about already established rules governing ORV's. You give the impression that all ORV's are equal and need governing even further than they are. The Park Service is allowing Quads and side by sides with tire size under 9 inches width to be stickered. Some of these are the race type. So I myself have an issue with the Quads and side by sides. They are capable of speeds and performance that the Preserve was simply not meant for, especially after the Park Service's introduced rock roads as their answer to stabilized trails. The original purchase of these lands were ORV's to stay on the already established trails, not for the Park Service to establish Trails. Unfortunately the Preserve continued to dry up as a direct result of The Army Corp's of Engineers. This land was Scrapped, forested used up and was to be developed until outdoorsman now Glades man, private organizations and congress joined and set this land aside for a preserve for hunting, hiking, camping and the use of ORV's. All these uses are being governed by the Park Service with extreme restrictions. So now it comes to the pamphlet that you sent me during the Hunting Season.</p>
<p>FIRST STATEMENT SECT.B</p> <p>This statement mentions "challenging terrain". All of Big Cypress is challenging, that is why we originally were asked to stay on established trails. It's very prevalent today the damage of draining does to this ecosystem. Keep in mind that the Park Service boasts that the ORV's have over 720.000 acres in which to navigate. This is a flat out lie, they have close over 2/3rds. Since there control.</p>
<p>STATEMENT 11, SECT B</p> <p>What would a skills test involve? The Park Service has rock roads. The only driving problems they have is from quads and side by sides exceeding the posted speed limit.</p>
<p>STATEMENT 12, SECT B</p> <p>These questions repeat themselves and appear to be focused around speed and noise. It sounds like quads need to limited in number as they were not in existence during the original intent for the Big Cypress.</p>

STATEMENT 13, SECT B

I can't answer this question. The NPS has yet to show the studies taken years ago, that prove swamp buggies do not scar the land beyond repair. This year was stated as time to not man power. Also the biologists, panther researchers and forestry personnel all use old and new buggy trails to this day.

STATEMENT 15, SECT B

This terrain is so unique that it is best scouted by ORV. This terrain is unlike out west or up north. A hunter was lost this season for four days and was found approx. 2 miles from where he started. Scouting is done at idle speeds anyhow. Again it sounds like the NPS should have been writing speeding tickets instead of notes. Also, there is a posted speed limit.

STATEMENT 17, SECT B

Another statement without referring to the manual. ALL ORV's must have a muffler.

STATEMENT 22, SECT B

Here we go again, it is required that all ORV's have mufflers.

STATEMENT 24, SECT B

What obstacles is the Park Service having trouble with?

QUESTION 10, SECT C

What is sport/aggressive driving? This sounds again like quad trouble.

QUEST. 12, SECT E, STATEMENT 4

The Trail System that the NPS has is heavy equipment based. These trails were fought and amazingly prevailed. False science was presented that the rock roads would not alter the ecosystem. Time is proving the rock to be not green friendly as it's maintenance requires heavy equipment to produce it, maintain it and it is the basis of a road. The maintenance you keep asking about is this very road where no roads existed. The NPS stated that these roads would close for maintenance from time to time. Another restriction as ORV's will have no alternate route. The Trail System is a budgeted tax problem. Rock can't be volunteered to be dug up, and put down.

QUEST. 12, SECT. E STATEMENT 4

No! This is Federal land bought by matched grants from the purchase of hunting licenses, tax revenues etc.

QUEST. 12, SECT. E STATEMENT 7

I don't believe at all that my ORV harms wildlife.

QUEST. 12, SECT. E STATEMENT 11

I presently pay \$50.00 a year for my ORV sticker and have since 1982. In some instances more than one ORV.

QUEST. 12, SECT. E STATEMENT 19

With the restriction of the Trail system, elsewhere is not an option. The previous allowed "dispersed use" at least allowed this option and made for a more enjoyable trip.

QUEST. 15, SECT. F STATEMENT 2

The country is full of different "terrains" and each needs different attitudes.

QUEST. 15, SECT. F STATEMENT 7

The Big Cypress basin needs water. The NPS is working on that, at the same time there restricting ORV's. The number of Allowable ORV's use to be 3000 and now are 2000. The number of accessible acreage by ORV is possibly down to 1/3rd of the total the Preserve. There are closed lands that use to be opened and there are newly acquired lands that is intended for the Preserve, such as the Addition Lands. This mentioned land is going to be part of the Preserve and yet the NPS is issuing tickets for just hiking on these lands. The NPS says their saving this land for future generation, yet people are receiving two and three hundred dollar tickets for just hiking or bird watching on these lands.

In closing thank you for this opportunity. I have a great deal of passion for The Big Cypress. I don't care to travel as I do love the Big Cypress. I feel restricted and I feel strongly that The NPS hasn't acknowledged my Gladesman Culture. I hope this reaches you in time to consider for your research. Unfortunately this ecosystem is one of a kind and books do not have much on it. I feel and have always felt that tire width (wider than 12inches) was the most beneficial tread lightly idea for this ecosystem. I feel if this was implemented years ago we wouldn't be having the troubles of today. The NPS presently have many rules and laws in place. They just don't seem to use them until their backed against a wall. Such as the Bio-Diversity study.

Thank you.

RESPECTFULLY XXXXXXX

My husband & I enjoyed Bear Island very much! The only negative aspect of the day was the dirt road we had to travel in & out on. It was terrible! Everything else was very enjoyable!

<p>NPS have yet to send anyone to BC that has any knowledge about how to manage this park. This park is a wetland area & should be treated as such. These people do not go by their own rules yet they want everyone to do so. I have come to this place each year since it has been open & it has went down hill each year. Why don't someone come down here & go and talk to and with me & I'll show & tell you what has went on here, o by the way I'll go again in 2010.</p>
<p>You should send out a notice to all ORV permit holders advising them of volunteer dates for maintenance of ORV areas and trails. This way people could plan in advance for the event. You should also provide donation information on the same mailer.</p>
<p>Many questions posed in this survey do not apply to BCNP.</p>
<p>It is obvious there was no forward thinking when the trail marker system was put into place. NPS first placed electrical EMT pipe in to ground with reflective tape to mark trails Bad idea!!! The EMT pipes have rusted and fallen in many places at a 45degree angle. This makes for a very dangerous situation. The MT pipes are not at such an angle that it could impale a swamp buggy radiator or worse impale a chest, leg etc of a person riding a four wheeler ATV. Not only do the EMT pipes pose a hazard the pipes detract form the beauty of the Big Cypress. And I hate to think how much tax payer paid for the pipe. In the NPS infinite wisdom they decided to place green PVC markers next to the trails. We often have fires in the Big Cypress; it is part of the natural cycle of the Big Cypress ECO system. Hmmmmmm. Fires and plactic PVC. Let me see heat and plastic. If I remember in science class days I think fire will destroy plastic. The PVC markers are beyond ugly they make you feel you are on a Disney ride that went wrong. To even make maters worse the NPS are marking trails by nailing reflector signs to cypress and pine trees. What are they thinking!!!! The NPS wants us to respect the trails and the land around the trails. However, they are not leading by example by defacing trees with ugly signs. The NPS has place rock in the trails to stabilize the trail system. Fine damage has been done. Leave the exciting trail system in place do not expand the system any more. And above all no more markers. If you have to use markers to find your way around you should not be there. In addition, land owners are not consulted or listened to. They have years of experience in Big Cypress and most are ex military and are accustom operating in extreme wilderness environments. The land owners know what good for the Big Cypress they have been stewards of the Big Cypress long before the NPS arrived. The trail also poses a security problem for land owners. Many of the marked trails are routed by private property owner's camps. Thus making it easy for people burglarize camps and steal. Before the trail system the water and the rugged logging trails provided security for land owners. What is the NPS plan for law enforcement?</p>
<p>All persons participating in ORV me in Big Cyp should agree to treat any outcome is a strictly personal (or parental) responsibility, NOT liability of U.S. gov't unless directly caused by a U.S. gov't representative. Period PS: See my live panther video on Fla. Fish & wildlife website.</p>
<p>Randers did their controlled burn & left all their empty plastic water bottles behind everywhere. Lots of trash was exposed by the fires & a dumpster could help with removal of larger items, if it is property maintained... Too many 4-wheelers abuse the speed limit & the resources...</p>
<p>I enjoy riding in the park because of size, landscaping, animals and natural beauty. It is calm and pleasant area to be, and relax with friends. I enjoy riding at Big Cypress.</p>
<p>Anyone who has misused BCNP would never admit it on this questionnaire. Particularly in Jan., Feb., March we see plenty of infractions happening in the park. Some of the newer regulations are being implemented in support of the anti-hunting groups only. Fees should be charged by all parks users, including bikers & hikers.</p>
<p>The NPS is too restrictive in closing access roads to hunting areas!!</p>
<p>I have hunted this area well before the NPS came along, and it was better then.</p>
<p>I have junted and V+leged the Big Cypress and all other areas of the Everglades for hunt and recreation for over 50 years. As a person who has continuously use the Everglades myself and my family have been target to protect and enhance the very thing we care a great deal about. I would take to continue to be able to ??? Three out the Big Cypress with (Cannot read the rest of this)</p>
<p>If you are having problems it is because of to many four wheeler groups and the new side by side off road four wheelers. Most are out there just to ride and ride fast and hard. They should not be on a preserve they need an other area to ride that is not By Cypress. Like Bud Luck prairie was. Now that it is closed you have a lot more fourwheelers.</p>
<p>See attached: 1) Bother is a very vague, generalized term. Most ORVs in BCNP do not bother wildlife. The actually provide a lot</p>

of benefit. This, however depends upon the user.

2) There shouldn't be any areas of the BCNP where ORVs are prohibited. Although these areas should be limited and/or somewhat regulated, by nature they cant go everywhere. This, however has been a scare tactic from day one by the NPS at BCNP.

3) Traditional use was in the original agreement with the NPS. Since then, we as Gladesman, have lost more and more of our traditional use privileges.

4) I would agree that new ORV users should take a skills and safety class.

5) I do not operate my ORV at high speeds, ever.

6) I have built my ORV to make it whisper quiet.

7) ORV operators should be allowed to drive wherever they need to in BCNP. Once again, by nature, ORVs cannot go everywhere.

8) It is impossible to operate any form of ORV, without going over vegetation. However, I do not believe in needless damage to any vegetation.

9) It is impossible for any ORV user in the BCNP to get to where they need to be by driving only on designated trails. I do not agree with designated trail only driving because of the long term damage to that particular trail, whereas dispersed use does not create such damage.

10) My question here would be, who would teach such a course. Clearly not the NPS, as they are new to this type of operation.

11) Refer to #8.

12) The BCNP was acquired, for the most part, by funds from the Pittman Roberts Act by hunters, for hunters. Since the NPS has taken over they have tried to regulate, reduce and eliminate the hunters from the BCNP. My family through 5 generations have spent countless dollars to be able to traditionally have this area for our future generations. All that money means nothing to the NPS. Why would I, or any other Gladesman donate our hard earned money for naught.

13) I spend a great deal of my time in the BCNP on trail maintenance and cleanup.

14) The NPS has been proven to be highly ignorant to ORV operation.

15) The anti-hunters have staked their claim in the BCNP. To them, I will always be bothersome.

16) TL is not really centered to driving in the BCNP.

Thank you for the opportunity to express my input. Although, by this questionnaire you sense my frustrations, I do appreciate the opportunity. I am not a careless outdoorsman. I passionately care about the BCNP. My ORV is under 3000 LBS w/turf tires. It is extremely quiet and leaves little to no impact. We as Gladesman have traversed the BCNP for many years without any lasting, adverse damage. I will agree that there are a few bad apples in every bunch, For the most part., ORV users are extremely responsible. I also want to express that it is impossible to access the BCNP without an ORV.

Given the opportunity, I would love to work with the NPS on the BCNP. I have lots of resources and years of knowledge.

Thank you.

I believe Big Cypress does not need trails. Leave wild life including hunting the way it was 15 years ago. Leave people enjoy wild life, because life is short and no one knows when there time is up. Stop making so much regulations, people will stop going to the Big Cypress then economy only gets worth.

I am one of three owners of Camp Red Bug LLC located on Baxter Island.

We are very concerned with ORV trails passing closely to our camp and making it easy for ORV users to steal from out camp.

We do not need new rules we need the park service to enforce the rules we have!!

Common sense should be used in the Big Cypress when using an ORV. Try to keep trails on the edge of prairies. We should have reasonable access to this public land. I think bringing in tons and tons of crushed rock to make trails does much more to alter waterflow than ORV use. What is natural about bringing in all that fill? The buggy trails are where a lot of the wildlife is, holding water and creating fresh vegetation for food. This is our land designated for our use!

Its obvious from the questions that this will be used to regulate & restrict use of the area. The gov't. really wants to keep people out of this area & this appears just to be another toll for justification of their ultimate plan. I DON'T TRUST THE STATED MOTIVE BEHIND THIS SURVEY.

I do not like all the restrictions placed on me & my vehicle by government.

Safety, consideration. Leave only prints meaning remove debris from Preserve. Ensure next generations of the Cypress beauty. Abide by all laws for they are there to protect nature as well as us. Thank you.
Trails should be marked, but not improved. No gravel should be used as this will block water flow.
Section A #7 Trail maintenance in my area is all done by ORV users on a voluntary basis. We take care of the trails we travel. No organized activities in my area that I have ever heard of. Tax dollars pay the NPS to take care of the BICY.
Section B Walking terrain is not necessary with rare exception on established trails. Agency regulations do not teach me to operate an ORV safely or effectively or responsibly. Existing trails are decades old disturbance to animals is mild and temporary. Trash is unsightly I don't like to see it spread about. My oRV is as quiet as possible and I am traveling most always at walking speed. No mandated skills classes. At walking speed slowing down is moot. Driving where you are not allowed? Why? Very VAGUE cant be answered with so little info. Single ORV travelling is not inherently unsafe. I try to avoid driving too fast for the conditions to preserve my ORV from breakage. My noise is less than accepted aircraft noise in the area. My ORV cant be too quiet to suit me. I have no speed sensor or brakes. I go slow. A survey of BICY ORV operators should not contain time wasting questions such as the one about endangered plants or animals in the area (ever hear of the FE Panther or Blackbear). Or ghost orchid? What type of vegetation? Mufflers? Moot What trail? Is the obstacle temporary or permanent
Section D Questions are very vague again. Not specific enough to give a thorough answer.
Section E The form of the questions and the vagueness does not allow for an accurate and thorough answer. This donation theme is a curious idea. I don't volunteer to help the IRS or the Highway Patrol they are government so is the NPS. The NPS seeks unreasonable regulation in some areas I do not support that. I take care of the areas I frequent as if my safety and ability to reach my destination were dependant on it (and it is).
This is the last year I will visit Big Cypress after 25 of them. The national park service has managed to destroy the wildlife there are no more hog& the deer herds are less then half once this is fixed my friends & I may come back.
Let ORV travel where ever they want especially in stair step & turner river
We all have to find a right way to get kids involved. ATV access is denied until they reach sixteen I understand, but let us take them on a safe piggy-back style seat or something to be able to get the kids (mine included) all the way in the Big Cypress, to enjoy it like I did when I was a child. We don't have a swamp buggy to get kids out there, and don't see it fair for the kids. We can figure this out!
I have never seen a ranger or park officer stop to pick up trash. Donations! I pay for hunting license, management area permits, off road vehicle tag, archery, turkey permits and jet get denied a quata hunt permit, and to make matters worse permits are non transferable. Camp maintenance on Bear Island is from little to none. Game management is the worse. I was told once by a biologist that the doe to buck ratio in Big Cypress is 21-1. etc.
Open up more trails in the stair step for ATV 4X4, on paces dike. Pass gum slew all they way to airboat trails.
I believe that ORV's riding has created greater interest and appreciation for the environment for my friends and family. This is the manner in which most of them have experienced the outdoors.
Rangers are racist and very disrespectful, the ones on the field, when I have enjoyed camping and hunting at this Big Cypress National Preserve for 40 years. It was free back then, and there was no one there to treat me bad.
Found survey confusing. Bottom line - enjoy & respect nature.
I would like for the park to tell all ORV operators and others to stay off posted land, private property mean just that. I would like to see some signs at all access points to let people know to stay of posted land, to pick up there trash and stop making new trails all through the woods, thank you for your concerns for our everglades. It is a big part of my family's & my life.
Please send me literature on TL
Have better trail markers and signs for the names of trails

More trails south of loop for buggies no 4 wheelers
Written on first page: I don't like this don't send me any papers.
Though I believe in the current rules for ORV's, I do worry that the National Park Service will increase the restrictions beyond what is necessary. The National Park Service is a government bureaucracy that can-not behave on its own or without supervision.
More area's & road's to travel there's a lot of land that is there to be seen & hunted But you have to walk to What if your handicap or unable to walk long distances all people have Right's but they seem to get taken away everyday. Instead of controlling the hunter's and camper's should be controlling 4 wheeler's that go all over the place. If it don't have steering wheel should not be allowed in Big Cypress. My grandfathers, dad, and me have enjoyed Big C for years before all rights were taken away but I guess that's something my kid or new comers will never see!
Yes. You can't go fast because of the cypress tree & knobs. You have to go slow or you will get hurt. P.S. You just be safe.
I spend hundreds of hours in BC. Nobody trust the NPS. Just ask the Indians. I live to be in the BC woods, nature. Save us from the NPS. Please, thank you.
A lot of the ORV trials markers are missing damage or burn. Will be nice to help replace. Thanks.
I enjoy scenic driving. Doesn't have to be fast but to see the Everglades/Ocala and other parts of nature "the same trail" doesn't always do it. I believe you need to be responsible for litter/damaging wildlife/plants and environment. I feel for an ORV you should have more trails to lakes/ponds/and sights that show Florida. A scenic trip to see cypress trees and sawgrass takes about 5 minutes. At Big Cypress you need to be able to leave from the park.
The NPS has not managed the Preserve as originally intended in the creation of it in 1974 which the congressional documents states Traditional swamp buggys would have access to all of the preserve were sustainable. We have been restricted to designated trails that are 4 to 10 miles apart an over 40% of the Preserve no access at all. Now after acquiring the addition 146,000 acres lands in 1988 an not giving ORV access for over 20 yrs there telling us they want to make it wilderness. No ORV access when the preserve was created it stated the addition lands when acquired would be added to the original preserve an managed as one of the same. We need more access or trails no more than 1 or 2 miles apart for reasonable access.
The NPS and BICY staff does not believe in Tread Lightly principles. The attached photo shows two ORV's currently registered in BICY, one weighs in excess of 7,000 lbs., the other less than 3,000 lbs. They are both allowed to traverse the same areas equally, but one leaves a footprint of where it has been, the other barely does. Please explain this management style? The ORV on the right is typical of the traditional ORV's found in BICY in 1973, and the only ones that should be allowed.
I would like info on Big Cypress clean up.
ORVs have been a part of Big Cypress for many years. Numerous members of my family have enjoyed the scenery, hunting & fishing in Big Cypress while navigating in ORVs. Within the next few years I intend to introduce my grandsons to Big Cypress. My family has always respected the animals & vegetation in all the areas we use ORVs. Big Cypress takes good care of the camping areas & we enjoy our trips there.
Restricting ORV use to designated trails only would put much of the park off limits to my children and I. There are places to go that I would not be able to walk to with my children. Places I have gone with my father as a child, would be lost. Please do not let them take this away from us.
The Park Service set tire sizes for our trucks knowing all along new trucks do not come with the 9"- 9 1/2" size you/they require for access to the park. I lost respect for the NPS when I see their own truck did not meet his requirement. *I feel the NPS does not like hunters.
Why are you killing the fun of being in the Everglades?
I have not heard of any: clean-up days, volunteer days, or donation drives. This is only my 2nd year hunting, fishing. ORV operations are very important to people. There are limited areas to do these things. I'm grateful for Big Cypress! My family loves it.
As a young child my father was on the board of directors for the tropical audobon society. I learned at a very early age how to be responsible in the woods. I bought my ATV in 2002, to use as a vehicle for camping. I haul my camping equipment out, camp, and take leisurely rides daily, and enjoy Big Cypress. I don't camp at designated camp sites and never will. That is why I bought the ATV.
Please explain why the NPS is destroying Big Cypress by putting in build up rock grades (roads) throughout the

preserve? They are using off road dump trucks (huge in size) and road graders and hit and run over ANY and ALL VEGETATION and TREES (cypress) in the way. This project not only alters water flow it is definitely "NOT" NATURAL or good for the "PRESERVE" in any way shape or form. TRUST NPS!!!? Trust "ME" I know right from WRONG!!!

Improve roads into Bear Island and open up more areas like we were told would happen. Is is a preserve not a park. Please open more areas. Let us have fun. Improve Turner River Road

ISDRA

We pay too much in taxes and fees. We should not have to pay to play on public land.
The Imperial Dunes is not a place...it is a lifestyle. I have been there through great times, and bad times. As with most of the hobbies I am passionate about, I am forced to fight to keep what I love. Groups of people are trying to take my dunes, hunting, forests, 4x4's, etc. Some of these people feel they are doing right. The rest do not care and ruin it for those of us that do. I feel like I am treading water...I hope this survey helps...
1. Don't raise the fees 2. Don't close our dunes
I sympathize with the BLM's efforts @ ISDRA. The main problems they face are 1. a state legislature that regularly steals funding from ISDRA and 2. Environmental groups. As a civil engineer, I've had many battles with environmental groups and usually lose because they use neither science nor reasoning (the background of my profession) but rely on emotion. Try winning that argument!
Regarding permit fees, \$65 is excessive, but I would pay only because of fear of getting ticket. The fess should be no more than \$40 for a weekend.
Keep the cost low, due to our economy, which is hurting many families that would enjoy the outdoors. Thank you.
I'm overall for the environment. But I truly believe duners at ISDRA are not harming the environment as a whole. Closed areas by Sierra club and Center for Biological Diversity in the ISDRA should be re-opened. I have never seen any person using these dunes for walking pleasure. These public dunes offer family use by thousands and thousands of people annually. Also the financial impact in assorted taxes and the purchase of goods (machines, parts, RV's, food, etc.) help the economy with thousands and thousands of dollars! I see very little change in the ISDRA in the past 33 years!
Yes, I would like to see emphasis & enforcement on the rules around the camps. No high speed. No dust. No noise at night. Put at least 1 rangers posted at each wash.
It is unfair to charge friends or family a weekly amount for a 1 day visit (Thanksgiving, Christmas, New Years, etc.)
Fess are high and the funds seem misappropriated. Too Often the trash is overflowing and the restrooms are not maintained. - Law Enforcement seems more like harassment - too many issues to list on this short paper.
I have been involved with OHV's my entire life and enjoy the time it allows me to spend with family & friends. We take care of the area we frequent, although others unfortunately do not feel the same. I hope that changes soon. Good luck with your study!
Talking with others: Found people willing to go elsewhere because of fees and more and more law enforcement.
I think the fee (additional tax) structure is out of hand! However I pay knowing the garbage fees are high. But when I hear that fees may go up & trash service may be stopped, it makes no sense! The off site ISRA permits seem like a bad & not very efficient. This paper sucks to write on !!!
No trash cans: pack it in & out enforce least services as possible. More enforcement. More education & involvement/recuite
Send me info about university store.
I believe that fee's are necessary and that new people to the sport should take starty courses and be more responsible for there trash and corfuse on noise may need to be enforced late at nite. I would like to know where the fee's are going and be sure that fee moneys stay's in OHV area's not the state.
I do not think it is necessary for the second vehicle to have a permit such as when a family member has to work and must drive out separately that vehicle should not be required to have a permit!!! Thank you Doug Bean
I think it is ridiculous to pay the outrageous seasonal/weekend permit fees when our OHV green stickers fees were supposed to pay for those uses. We are now choosing to ride in other states. Mainly Utah and will continue to ride responsibly and Tread Lightly.
Imperial County Sheriffs are rude and abusive of the power they have. They constantly harass law abiding seasoned riders.
I marked a number of questions with a "x" I feel they are to general and an accurate answer can not be given without being more specific. Some of the questions do not apply at all to the ISDRA. I think this survey is poorly written.
Keep up the good work!
It is a great family activity that needs to be protected. Johnson Valley, CA., the largest riding area in CA is under threat of being "condemned" by the U.S. Military. I would love to see you audit/review the effect such a takeover

would have on the tens of thousands of OHV'ers that currently utilize for recreation.
The closure of the dunes has only limited the areas of use. Basically you took millions of people and shoved them into a smaller area. The increase in accidents is due to the simple fact that there are not enough open areas for people to play/ride in. The rangers need to stop allowing people without actual "sand toys" (aka ppl who drive the same truck they came out in to the dunes), to ruin the fact that people spend hundreds of thousands of dollars (rails, motorhomes, trailers, etc) to participate in something they love to do and people that just come to "party" ruin it for everyone else. We don't care about saving a week. It's called open the dunes all up & if they want to help, crack down on the low lifes that ruin it for everyone else. Save lives by creating more room for everyone to use!
I do not like the way donated money is used. Public land should be open to tax payers.
I do not trust the BLM staff and other outside agencies because of a couple of incidents my family has had w/ them. The one that comes to mind is having my 15 year old cousin tackled off his dirtbike by a BLM Ranger. He said he did it because he failed to stop for him on the way to the send drugs. One ranger jumped out in front of him and he swerved to avoid running the ranger over and the next ranger tackled him and cuffed him. There reasoning was that he was about to fee. The truth at the situation is that my cousins whip broke in half (unbeknownst) to him. They thought he didn't have one at all. And the ranger even admitted to being still "pumped up" from just chasing ??? Bike for a couple of miles through the dunes. This proved to me a wild west "cowboy" attitude of the rangers that can't control their adrenaline and take each situation for what it could possibly be. I also couldn't figure out why it cost more to buy a pass at the dunes then at a gas station. Also since the GLM started charging it took years to see any improvements at ISDRA.
Save our dunes for OHV/ATV use.
This year has economically hit recreational expenses, very hard. Many folks I know, including myself, cannot afford to play. Safety, environmental, are great causes, but rising costs are discriminating against lower income groups.
No think-you. The 90.00 offsite permit is the max my family (dad, 2 brothers, 3-cousins and myself a going to pay!!
Nice study, but a bit one sided - of course!
We helped with trash cleanup, in 2010 and feel that the trash problem is not has bad, as it was in 2009 when we helped with trash cleanup
Yes every now and then run an article or two in motorcycle mags also. I have seen them in sandsports but get the word out to the two wheel guys also.
a good idea to get people to volunteer might be to give a discount on a permit.
Indicated on first page "We don't go anymore"
The BLM rangers need to be more concerned with those causing harm in the ISDRA, instead of picking on things like whips and mufflers. Their strictness takes the fun out of riding.
Great family recreation!
BLM rangers could improve their relationship w/visitors if they would stop ticketing w/ the intension of purely making money. We have experience this way too many times and is the primary reason we don't trust them. Writing citation for those individuals who break the laws as a way to throw it in the face of the law should be ticketed! Simple warning would go a long way to improve relationships.
in 2009 the BLM Rangers went overboard in searching out any thing they could find. We pack it in and follow the rules. We're not loud, destructive or obnoxious yet every trip we found ourselves confronted or questioned by rangers!!
Have not camped @ ISDRA for several years - switched to Ocotillo Wells OHVRA
Please take me off your mailing list. We don't visit the dunes anymore. Thx
We need to keep more areas open to ride...
I believe this is the same format That was used to start "fees" in the Dunes in the first place. The Endangered Species Act is used in a bogus fashion @ the ISDRA to close portions and make it a more hazardous place that it was, thereby giving the CBD another reason to close the Dunes. I do not want to hike into the dunes to enjoy their beauty! You can go north of Hiway 78 for that already!