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Nonresident Values of Montana's Natural Areas

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EXECUTIVE SUMMARY

Three quarters of nonresident vacationers to Montana are primarily attracted to characteristics of public lands such as national parks, mountains, forests, and open space. Viewing and recreating on Montana's public lands are vitally important to the success of the travel industry in the state. Therefore the purpose of this study was to assess public land values held by nonresident visitors to Montana and to compare values between groups of outdoor recreation participants.

People who have visited Montana in the past and were members of the Institute for Tourism and Recreation) ITRR research panel were asked to complete an on-line survey. Surveys were completed by 521 nonresidents representing 46 US states and the District of Columbia, seven Canadian provinces, and five other foreign countries.

Two different previously developed scales were used to assess values people hold for national parks and for natural areas in this study. Results show that nonresidents value Montana's public lands. Mean scores on all value statements remained on the positive agreement side. These values were high for both intrinsic and extrinsic use as well as existences values (i.e., for personal recreation use, for societal use, and for preservation of lands). However, once values were compared based on types of recreation activity participation, differences emerged.

Respondents were asked in what recreation activities they participated while in Montana. A-priori segmentation was used to place respondents into three discreet groups.

- **Active** Group represented 57% of respondents and included: fishing, hunting, gathering, hiking, backpacking, horseback riding, bicycling, downhill skiing/boarding, cross-country skiing, and non-motorized water activities.
- **Motorized** Group represented 25% of respondents and included: off-highway vehicle (OHV) use, motorized trail activity, snowmobiling, motorized water activity, other motorized activity.
- **Passive** Group represented 17% of respondents and included: developed camping, primitive camping, nature center activities, nature study, viewing wildlife, viewing natural features, visiting historic sites, picnicking, driving for pleasure.

Analysis of Variance and Bonferroni post hoc tests were conducted and found that significant differences in values toward public land existed between recreation groups. Three differences in value statements between Motorized and Active groups were found; nine differences in value statements between Motorized and Passive groups were found; thirteen differences in value statements between Active and Passive groups were found.

The significance of this study is that little difference was found between Motorized and Active groups. The Passive group was more likely to have lower values toward the natural areas than the Motorized and Active recreationists. These data appear to indicate that being active on the public lands is more of a differentiating variable than the motorized/non-motorized variable found in other studies. In previous studies, differences in motorized and non-motorized existed. This study, however, points to a need to differentiate the "windshield tourist" from other visitors who actively participate on the public lands. More support for public lands in Montana can be generated from the active vacationer.

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INTRODUCTION

A majority of vacationers visit Montana for the national parks, mountains and forests, and open space found in abundance in the state. Data shows that for 73 percent of nonresident vacationers to Montana natural area attributes are their primary attraction. Understanding what values those visitors have for these places has not been fully understood (Institute, 2012). The connection between natural areas and the nonresident visitor has implications for land management, state tourism promotion, and policy. McIntyre, Yuan, Payne, and Moore (2004) found that people develop bonds with natural places. Montana is no exception. Seventy-eight percent of groups who visited Montana in 2012 were repeat visitors, many of whom were recreating on Montana's public lands (Institute, 2012).

Natural areas hold meanings to visitors through values. Values are "the most deep-rooted and central elements in a person's system of attitudes and beliefs" (Bengston, Web, and Fan, 2004). Winter and Lockwood (2004) identified studies that examined values, natural areas, and vacation destination decision-making: Pizam and Calatrone (1987) found that both personal and social values influence decision-making of tourist destinations, and Juric, Cornwell, and Mather (2002) found values relate to motivation of the activities tourists select. Winter & Lockwood (2004) suggest that values influence destination decision-making and provide researchers with ways to segment a tourist market for marketing strategies and communications.

Montana has a diverse landscape of mountains, forests, prairies, and grasslands where much of this diversity is on public lands. Thirty-five percent of Montana's land-base is public. These public lands include: U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Army Corp of Engineers, Bureau of Reclamation, National Wildlife Refuges, tribal lands, Montana State Parks including fishing access sites, and Montana Department of Natural Resource lands. Some of these lands include designated Wilderness, national trails, as well as wild and scenic rivers. Additionally, public lands in Montana provide for diverse opportunities for recreation activities. The Institute for Tourism and Recreation Research (ITRR) data for nonresident visitors in 2012 shows the top activities where 50 percent or more of the nonresident vacationers participated in were scenic driving while in Montana; wildlife watching; nature photography; and day hiking.

ITRR data shows that nonresidents are attracted to Montana for the natural areas and the recreation opportunities the state provides (Institute, 2012). It is important for managers and researchers to examine the antecedent factors, like values, to understand how areas can best be managed for the nonresident visitor. With research showing that values are an important component of land management decisions, policy, and planning (Tanner, Freimund, Borrie, and Moisey, 2008), this study helps to make the connection between land management agencies, policy, and the tourism industry to provide areas that reflect the values held by visitors to Montana.

Understanding values nonresident visitors hold for these lands and the recreation activities in which they participate can make additional contributions to decision-making in natural resource management, policy, and visitor management.

Purpose

The purpose of this study was to assess public land values held by Montana visitors and compare values between groups of outdoor recreation participants. Research shows that visitors to Montana are attracted to natural areas, but do they visit because they value these places?

Research Questions

The following research questions were addressed in this study:

- R1: What public lands are used by nonresident visitors to Montana and who are they?
- R2: What values do nonresident visitors hold for public lands in Montana?
- R3: Are there significant differences in public land values between nonresident recreationists?

Limitations

This study is limited to: (1) Nonresidents who agreed to participate in Montana travel and recreation surveys via joining an online research panel conducted by ITRR; and (2) panel members who have visited Montana.

BACKGROUND ON NATURAL AREA VALUES

According to Winter and Lockwood (2005), values should be considered when making natural area management decisions. Additionally, values influence people's interests in natural areas (Winter, 2007). They influence attitudes and behaviors and can make a collection of values, or a value orientation, become indicators of an individual's environmental concerns.

Understanding values of natural areas is an important component to visitor management. English, Marcoullier, and Cordell (2000) identified that demand for services provided by protected areas has increased as well as the diversity of constituencies identified by McKinney and Harmon (2004) leading to a more complex practice of visitor management (Tanner et al., 2008). To manage visitors effectively, an understanding of values is needed. Value orientations and segmentations help managers provide appropriate services for the greatest number of people.

Encompassing values and the overall impact they have on natural areas, McIntyre et al. (2004) determined that people value "places because they symbolize something, because they have histories and memories associated with them, because they are interwoven in the stories we tell ourselves and others about who we are, and because they are rhetorical methods of making arguments for managing a place in one way or another" (p. 285). Other studies identified values seen in an environmental context as "direct and indirect qualities of natural systems that are important to the evaluator" and over the years it has become important to include values in natural resource planning" (p.286) (Borrie, Freimund, and Davenport, 2002; Brown and Reed, 2000; Imran, Alam, and Beaumont, 2014; McFarlane and Boxall, 2000; Satterfield, 2002; Teel and Manfredo, 2010).

Recreation Participation and Natural Area Values

In order to understand current and future values of recreation, and thus management implications on recreation lands, one must “explicitly recognize and incorporate such values” (Jackson, 1986, p.3). Jackson (1986) found that “values are usefully measured as attitudes to the environment” (p.1). Research showed that values influence recreation behavior. As Jackson (1986) described, different recreation activities can be influenced by different value types (i.e., hunting and fishing are influenced by use values). When the public was looked at through different orientations (i.e., consumer versus conservationist) value orientations influenced recreation preferences and participation (Jackson, 1986).

In a more recent study by Clement and Cheng (2011), aesthetic, biodiversity, future, and recreation value orientations were found as most important values held by individuals. Their argument was that a human desire to recreate can lead indirectly to benefits on a landscape, although directly they say it does not benefit nature for its own sake (Clement & Cheng, 2011). A study by Dunlap and Heffernan (1975) examined recreation activity participation and how that influences environmental attitudes. The study compared attitudes between appreciative recreationists (e.g. cross country skiing and hiking), consumptive recreation activities (e.g. hunting and fishing), and mechanized recreation (e.g. snowmobiling). Thapa (2010) used the same three types of recreation groups to look at environmental attitude and behavior and found that the association between participation in outdoor recreation activity and environmentalism is complex, and there is a need for additional research to better understand the relationship, especially recreationists’ environmental attitude-behavior link.

Jackson (1986) suggests that looking at recreation values, instead of socioeconomic factors, is more appropriate for understanding recreation participation. It is not just enough to examine general values of environmental concern; rather it is necessary to look at natural area concerns specific to a place (1986).

Andereck, Vogt, Larkin, and Freye (2001) found that recreationists identified with similar users and then evaluated other recreationists based on their type of recreation activity. While this study focused on recreation conflict between user groups, the underlying values users have for areas remained an important component. Motorized and non-motorized users are often the center of recreation conflict research (Shilling, Boggs, and Reed, 2012), so understanding the underlying values recreation user groups hold for the spaces that provide for these activities is becoming more important in the literature.

METHODOLOGY

This study focused on Montana’s public lands and those visitors who have been to Montana at least once. The study examined all natural areas when measuring values and followed up by asking which public lands travelers had visited.

Relevant Values Scales

This study replicates and extends previous research by examining values, recreation participation, and use of Montana's public lands. Two previously developed value scales related to natural areas were used: the National Parks Values Scale (NPV) by Borrie, Freimund, and Davenport (2002) and the Natural Area Values Scale by Winter and Lockwood (2005). Recreation activities listed on the National Visitor Use Monitoring (NVUM) survey utilized by the United States Forest Service (USDA Forest Service, 2011) were used in this study. The two value scales used are discussed below.

National Parks Values Scale (NPV Scale)

An example of a context-specific approach to natural area values is a study that measured visitors' perceived values of Yellowstone National Park (Borrie et al., 2002). The scale was based on a literature review of the origination of the national park idea as well as changes which occurred overtime with park ideals and uses. Henneberger's research on national parks (1996) was used to develop the particular wording for the scale (Borrie et al., 2002). This scale identified value items and the importance level of those values. The researchers used factor and cluster analysis to identify different group-types of visitors to Yellowstone. McCool (1983) identified "while important values are clearly preserved within national park boundaries, the perceived purpose of the parks may change over time" (Borrie et al., p.41). This was evident when the National Park Service had to adjust itself to include the addition of ideals and values of the Wilderness Act of 1964.

Natural Area Values Scale (NAV Scale)

Winter and Lockwood (2005) developed the Natural Areas Value Scale (NAV scale) to measure "the relative strengths of individual's intrinsic, non-use, use, and recreation values for natural areas" (p.270). The authors used the value theory developed by Rokeach (1979) to demonstrate how behavior is influenced by values and the influence those values have on protected areas. Results from that study showed that "stronger intrinsic values have a positive effect on conservation preferences and the level of personal sacrifices people are prepared to make for those preferences, while stronger use values have the opposite effect" (Winter and Lockwood, 2005, p.276).

The NAV Scale has been used to examine a range of values from multiple use to recreation to spirituality (Winter, 2007). For example, Winter (2007) used the scale to look at levels of environmental concern for three groups: tourists, recreationists, and the general public. In that study, respondents were intercepted on-site at national parks (outside of the United States). The results found that the scale was a reliable and satisfactory measure of values for natural areas (Winter, 2007). Winter and Lockwood (2004) included an extensive literature review to develop the Natural Area Values scale, which allows this study to build off their previous review. In the existing literature, values were measured looking at visitors to particular types of areas (i.e., just national parks or broader forest regions).

Sampling Frame

To identify natural area values of nonresident visitors to Montana, this study used a survey panel to implement an online questionnaire. ITRR has been developing a research panel since July 1, 2009. Obtaining panelists for the research panel has been conducted in three ways: (1) individuals intercepted throughout the state of Montana for the nonresident tourism research study conducted by ITRR were

asked if they would like to participate in future studies; (2) visitors to various tourism promotional websites for the state of Montana and local convention and visitor bureaus can simply click on a 'button' located on these sites to join the research panel; (3) current panelists can 'refer a friend' and those friends can join the panel.

This panel uses software developed by Survey Analytics, a nationally recognized research firm. ITRR purchased the survey software; however, as previously mentioned, ITRR recruits all its own panel members and implements all its own questionnaires in-house. The benefits of panel research are much like other online survey techniques including low cost for survey implementation, a relatively quick response time, little need for data cleaning, and ease of exporting into analysis programs like the Statistical Package for the Social Sciences (SPSS). Another perk of using a panel to implement the questionnaire is that it will assign a unique I.D. to each panel member. The software can then send a reminder to all members who had not responded on a date specified by the researcher.

Some drawbacks to panel research include the need for participants to be internet-savvy individuals which may in turn represent a particular demographic. Also, with ITRR's panel in particular, panel membership does include survey bias due to how panelists are recruited (see above discussion of three ways panelists are recruited). However, the panel does provide for a convenient sample and panelists can be segmented by people who have visited Montana. Survey saturation is not a concern as ITRR sends, at most, one survey per month to its members.

The entire ITRR panel consists of both Montana residents as well as nonresidents. For this study, the term nonresident refers to an individual whose permanent residence is not Montana. All of the nonresident panel members have either already visited Montana, have looked into travel sites promoting Montana as a vacation destination, or have been made aware of the panel by a friend who has visited the state or a Montana travel site. To encourage the members to complete surveys, panelists are offered an incentive for participating in panel surveys. They are given 20 points for each survey completed. With each 20 points they earn, their name is entered into a once-a-year drawing for a \$1,000 VISA gift card.

On May 30, 2012 the survey invitation was sent to all the ITRR panel members. Invitations are a unique link sent to the panel member's email address they provided when they joined the panel. Only nonresidents were asked to complete the survey. At that time, there were 3,510 panel members; not all are active panel members, however. The invitation included an incentive for the respondent to earn 40 points (double the typical amount) for completion of the survey. On June 6, 2012 a reminder was sent to those members who had not yet completed the survey.

Questionnaire

To identify natural area values held by nonresident visitors to Montana, a questionnaire was developed and sent to all panel members.

The questionnaire (Appendix 1) included: (1) whether or not the respondent has visited Montana; (2) items from the NPV Scale (Borrie et al., 2002); (3) items from the NAV Scale (Winter, 2004); (4) recreation participation questions from a set of recreation activities used in the National Visitor Use

Model (NVUM) (USDA, Forest Service, 2012); (5) public lands the respondent has visited in Montana; and (6) demographic information.

Both the values scales used six-point Likert scales ranging from strongly disagree to strongly agree. Additional items had been added to the scales because as the NPV Scale developers state, “continued development of the scale may increase the amount of variance explained and help assess the values prescribed to different parks and regions” (Borrie et al., 2002, p.47). Since this study is examining all public lands, not just park lands, these additional items were written to broaden the statements to other types of lands. A comprehensive list of public land types was provided to identify “yes,” “no,” or “don’t know” if they had visited the different types of lands in Montana.

The additional values scale items come from other studies that were implemented in Montana (Ellard, Nickerson, and Dvorak, 2009; Adams, Carson, Clark, Gracie, Grau, McBride, Oschell, Tanner, and Valentine, 2004.) Ellard et al. (2009) conducted interviews with visitors to Montana about the vacation experiences. These interviews resulted in a set of terms or phrases the visitors associated with Montana. This study uses some of those terms to make the scale items more relevant to Montana and its characteristics. These terms include: open space, elbow room, feelings of freedom, and spiritual connections. In addition to making the scale more Montana-relevant, these scale items were added to include characteristics outside of National Park Service boundaries.

Not all of the scale items from the initial scales were used. Due to the length of the questionnaire, the length of the statements, and amount of thought it took for each statement while taking online surveys, some scale items were left out. The NPV scale used in this study incorporated all but two of the original scale items. The omitted items were: (1) a display of natural curiosities; and (2) a family or individual tradition. Eight additional values statements were added to this scale: (1) social places; (2) places that make me feel good; (3) Places that provide open space; (4) places that give me elbow room; (5) places that provide for a variety of natural areas; (6) places that provide a feeling of freedom; (7) places that evoke a spiritual and/or religious connection in me; and (8) places that provide income.

From the NAV Scale, one scale item from each of the six different value types Winter (2007) identified: intrinsic, recreation, spiritual, use, and non-use were used. Additional scale items were added to be more Montana-relevant that also fell within these categories to develop a modified Natural Area Values Scale for this study. The additional items included: (1) It does not matter to me whether a natural area is publicly or privately owned; (2) Even just driving Montana’s roads and highways makes me feel connected to the land; (3) I don’t have to go into the backcountry to feel a sense of value for Montana’s public lands; (4) I can distinguish between private lands and public lands while driving in Montana; (5) If I were unable to use Montana’s public lands, I would still enjoy them; (6) If I were unable to use Montana’s public lands, I would support their existence; (7) I value Montana for its access to public lands; (8) Montana public lands are valuable. Therefore this scale is referred to as the Modified NAV Scale.

Analysis

Data was exported to SPSS from the panel software. Descriptive statistical analysis was used to examine frequencies for demographics, the public land values section (based on the NPV Scale and Modified NAV Scale), public land visitation, recreation activity participation, and total recreation participation.

A-priori segmentation was used to group respondents based on their recreation participation and is an accepted and effective way to group participants together (Boley and Nickerson, 2012). A-priori uses a rational approach to segmentation based on previous research or common themes.

Each respondent was placed into one recreation segment based on their participation in selected activities. Activities similar in style of recreation were grouped together and included three recreation segments:

- Motorized
- non-motorized active (referred to as Active)
- Passive

The Motorized group included all who participated in any OHV (off-highway vehicle) use, motorized trail activity, snowmobiling, motorized water activity, and/or other motorized activity. If the respondent participated in any of the above activities, they became a member of the Motorized group even if they also participated in other types of recreation activities. Once placed in the Motorized segment, they were not allowed to belong to either of the other two groups.

The Active group included those who participated in fishing, hunting, gathering, hiking, backpacking, horseback riding, bicycling, downhill skiing, cross country skiing, and non-motorized water activity. Again, if they participated in any of the active recreation activities, they could not be placed into the third segment.

The third and final group incorporated the Passive activities: developed camping, primitive camping, nature center activities, nature study, viewing wildlife, viewing natural features, visiting historical sites, picnicking, and driving for pleasure. Even though driving for pleasure is a motorized activity, it was not considered an active motorized activity as those in the Motorized group (i.e. it does not require more than a regular motor vehicle and therefore everyone can do this activity). Primitive camping was included in the Passive group since many camping areas in Montana are primitive and if the recreationists checked backpacking, their type of primitive camping would have been include under backpacking.

After each respondent was assigned a recreation group, one way ANOVA (analysis of variance) was used to determine if differences between the recreation groups for each of the value scale items existed. This was followed by the Bonferroni post hoc test which was used to note where the significant differences existed between the recreation groups.

Response Rate

Response rates for panel surveys have been discussed in the literature regarding online surveys. Online surveys are implemented off-site and tend to have lower response rates than surveys done on-site (Davis, Thompson, & Schweizer, 2012). Since the development of panel survey methodology, there has been a need for standardizing formulas and terminology needed to calculate metrics for this type of implementation (Callegaro & Disogra, 2008). Response rates and completion rates are important metrics to calculate for panel surveys. The response rate for online panel surveys encompasses the view rate, participation rate, and completion rate (Callegaro & Disogra, 2008). The “response rate is based on the people who have accepted the invitation to the survey and started to complete the survey” (Callegaro & Disogra, 2008, p. 1011). The completion rate is “calculated as the proportion of those who have started, qualified, and then completed the survey” (Callegaro & Disogra, 2008, p. 1011). This survey panel uses a voluntary opt-in approach. With this approach, completion rates are the most valid rate to calculate (Callegaro & Disogra, 2008).

Thirty days after the initial mailing of the survey link, data collection was ended. Of the members who received the invitation (3,510), 782 viewed and started it, 679 completed it, and 521 of those qualified for this study (nonresidents who have visited Montana). The response rate of 22 percent is based on the 782 out of 3,510 panel members who viewed and started the survey. The completion rate of 77 percent was calculated using the 521 people who have visited Montana (qualified for this study) and completed the survey. This was the final usable sample (Table 1). The average time it took a respondent to complete the survey was nine minutes.

Table 1: Response rate and Completion Rate

Rate Type	%
Response Rate	22%
Completion Rate	77%

RESULTS

The following results section is presented with three research questions. First, public land visitation and the demographics of the sample are discussed. Second, the frequencies and mean values of the public land values statements are displayed. Third, frequency of recreation activity participation was identified followed by the number of respondents in each recreation activity cluster. The section concludes with identifying differences between each segment for each of the values statements where differences were found.

Research Question 1: What public lands are used by nonresident visitors to Montana and who are these visitors?

This section examined which Montana public lands study participants have visited (Table 2) and the demographics of the respondents (Table 3). National Park System Lands and National Forests and

Grasslands make up the bulk of nonresident visitation to public lands in Montana. Lands within the National Park system had the highest percentage of visitation at 93 percent. Six percent of respondents said “no” they did not visit, and two percent selected that they did not know if they visited that type of public land. Seventy-two percent of respondents visited national forests and grasslands, ten percent did not, and 18 percent did not know.

Visitation significantly declined for the remaining types of public lands. It is quite obvious that nonresident visitors simply know that they recreated on some sort of public land. For example, people do not say, “I am going hiking on BLM land today.” Instead, they say they are going hiking. This is not new information, instead it confirms the belief that people use public lands...they just don’t know or possibly don’t care who manages the lands they use for recreation. Visitors to public lands base trips on activities not land management agencies.

Table 2: Public Land Visitation of Nonresident Visitors to Montana

Public Land	N	Yes	No	Don't Know
National Park System	473	93%	6%	2%
National Forests or Grasslands	472	72%	10%	18%
Montana State Parks (excluding fishing access sites)	459	38%	32%	30%
National Wildlife Refuges	463	28%	28%	34%
Montana Fishing Access Sites	459	28%	58%	14%
Bureau of Land Management	460	26%	23%	51%
U.S. Army Corps of Engineer (i.e., lakes)	452	26%	36%	38%
Montana Department of Natural Resources	457	9%	28%	64%
Bureau of Reclamation (i.e., lakes)	450	9%	33%	58%

Demographics

A number of demographic questions about the respondents were asked. The sample was made up of 55 percent male and 45 percent female respondents. Their ages ranged from 20 to 87 with a mean age of 55. Table 3 shows the demographic information including age ranges, education, residence, and household income. The largest group was 51-65 years old which represented 45 percent of the sample. Education levels represented in the sample included everything from some high school through doctorate or professional degrees. The highest represented education level was a Bachelor’s degree with 34 percent of respondents reporting that level of education.

Respondents represented 46 U.S. states and the District of Columbia, seven Canadian provinces, and five other foreign countries. Respondents from Idaho, Washington, and Alberta each represented six percent of the total. Four percent of respondents were from Minnesota, California, Texas and Colorado each. Florida, Oregon, and Wisconsin each represented three percent of respondent residences (Table 3).

Income ranges for the sample fell into each of the response categories. Nineteen percent of respondents make less than \$50,000 (US Dollars). The highest frequency of income level for respondents was 25 percent who make more than \$50,000 but less than \$75,000. Twenty-two percent earn more than \$75,000 but less than \$100,000. Twenty percent of respondents make more than \$100,000 but less than \$150,000, and a combined 14 percent make either \$150,000 to \$200,000 or greater.

Table 3: Study Respondent Demographics

Age (mean = 55; range = 20-87)	N	%
20-35	46	10%
36-50	97	22%
51-65	201	45%
66-87	100	23%
Education	N	%
Some high school	3	<1%
High school diploma or equivalent (GED)	35	8%
Some college	93	21%
Associates degree	42	9%
Bachelors degree	151	34%
Masters degree	75	17%
Doctorate or professional degree	48	11%
Residence of Respondents	N	%
Idaho	34	6%
Washington	33	6%
Alberta, Canada	31	6%
Minnesota	23	4%
California	20	4%
Texas	19	4%
Colorado	18	4%
Florida	15	3%
Oregon	14	3%
Wisconsin	14	3%
All other states with 2% or less: AL, AK, AZ, AR, CT, District of Columbia, GA, HI, IL, IN, IA, KS, KY, LA, MD, MA, MI, MS, MO, NE, NV, NH, NJ, NM, NY, NC, ND, OH, OK, PA, RI, SC, SD, TN, UT, VT, VA & WY	194	36%
All other Canadian provinces represented: British Columbia, Manitoba, Ontario, Prince Edward Island & Saskatchewan	19	4%
Overseas countries represented: France, Germany, Israel, Sweden & United Kingdom	6	<1%
Annual Household Income (US Dollars)	N	%
Less than \$50,000	78	19%
\$50,000 to less than \$75,000	106	25%
\$75,000 to less than \$100,000	93	22%
\$100,000 to less than \$150,000	82	20%
\$150,000 to less than \$200,000	26	6%
\$200,000 or greater	34	8%

Table 4 is a comparison between demographic responses by the panel members and demographic data from ITRR's 2012 nonresident visitor study respondents (Institute, 2012). This table shows that the panel respondents and the nonresident visitors to Montana during 2012 are very similar in age, residence, and

income. The mean age for the panel survey is one year younger than the nonresident survey while the age range for the nonresident visitor is a little wider: 18-94 for the nonresident respondents versus 20-87 for the panel respondents.

Table 4: Demographic Comparison between Panel Respondents and Nonresident Visitors*

Panel Survey Study Respondents		2012 MT Nonresident Visitor Study	
Gender			
Male	55%	Male	56%
Female	45%	Female	44%
Age			
Mean= 55		Mean= 56	
Range= 20-87		Range= 18-94	
Top Residence			
Idaho	6%	Idaho	10%
Washington	6%	Washington	10%
Alberta, Canada	6%	Wyoming	8%
Minnesota	4%	Alberta, Canada	8%
California	4%	North Dakota	6%
Texas	4%	California	5%
Colorado	4%	Utah	4%
Florida	3%	Colorado	4%
Oregon	3%	Minnesota	4%
Wisconsin	3%	Oregon	3%
		Texas	3%
Annual Household Income (US Dollars)			
Less than \$50,000	19%	Less than \$50,000	21%
\$50,000 to less than \$75,000	25%	\$50,000 to less than \$75,000	23%
\$75,000 to less than \$100,000	22%	\$75,000 to less than \$100,000	21%
\$100,000 to less than \$150,000	20%	\$100,000 to less than \$150,000	20%
\$150,000 to less than \$200,000	6%	\$150,000 to less than \$200,000	8%
\$200,000 or greater	8%	\$200,000 or greater	8%

*data is from ITRR report builder, 2012 Nonresident Traveler Characteristics

The only states not represented in the top residences for the panel members that are represented in the top tier of nonresident visitors are Wyoming and North Dakota. From the ITRR report builder which generates data for the Montana nonresident survey results, it is evident that the main purpose for Wyoming and North Dakota residents is passing through and business which may result in less interest in participation on the travel and recreation research panel (Institute, 2012). Income for respondents on both studies is very similar with any differences being within two percentage points of the other study.

The comparison to the 2012 nonresident visitor study was provided in this report to allow the reader to appraise and make conclusions as to the generalizability of the sample to the full nonresident visitor

population. It is the belief of these authors that the sample is so similar in these demographic variables, that results from this study are parallel to what would be found in all nonresident visitors to Montana.

Research Question 2: What values do nonresident visitors hold for public lands in Montana?

Survey respondents were asked to think about the extent to which they valued certain aspects of Montana's public lands. They were asked to use a Likert scale to select their level of agreement with each statement from strongly disagree (1), disagree (2), somewhat disagree (3), somewhat agree (4), agree (5), to strongly agree (6). As seen in Table 5, the results of the scale items are organized with the highest mean score at the top of the table followed by each descending value. Table 5 displays value statements from the NPV Scale where respondents were asked to what extent they agreed with each statement in terms of "I value Montana's public lands as..." The items for the first scale detail qualities that public lands in Montana should have. The mean scores for the values statements ranged from 4.03 to 5.75 showing that respondents at a minimum "somewhat agree" with the values statements.

The highest mean score was 5.75 with 79 percent of the respondents strongly agreeing that Montana's public lands should be places of scenic beauty. The next five values statements all received over 60 percent of respondents strongly agreeing that Montana's public lands should be places that provide a variety of natural areas, places that make me feel good, places everyone should see at least once, places for wildness, and places that provide for open space. The mean scores for those five items ranged from 5.52 to 5.6 (Table 5).

With most of the respondents still on the agreement end of the scale, the mean score decreases somewhat as there is more variety within the responses. Symbols of Montana's identity, places that give me 'elbow room,' wildlife sanctuaries, places that provide a feeling of freedom, places that protect fish and wildlife habitat, places for the enjoyment of people, places for all living things to exist, places for recreational activities, and sites to renew my sense of personal well-being all still have at least fifty percent of the respondents strongly agreeing with each statement. However, the range of mean scores is between 5.33 and 5.45 with eight to 14 percent of the respondents only somewhat agreeing to those values statements. The next five values statements have at most 49 percent of the respondents strongly agreeing with Montana's public lands being places for education about nature, historic resources, tourist destinations, protectors of threatened and endangered species, and places for scientific research and monitoring with a mean score of at least a five.

The remaining values statements had a mean score of less than five, but still on the agree side of the scale. However, the average score is brought down by some respondents being on the disagree end of the scale. The previous scale items have had no more than three percent of the respondents on the disagreement side. Starting with the value statement that Montana's public lands should be for reserves of natural resources, at least twelve percent of respondents are on the disagree end of the scale (eight percent somewhat disagree with three percent disagreeing and one percent strongly disagreeing) (Table 5).

In total, eight value items fell below a mean of five including Montana’s public lands as sacred places, places that evoke a spiritual and/or religious connection in me, social places, economic resources, places to develop my skills and abilities, places to be free from society and its regulation, and places that provide income.

Table 5: NPV Scale

I value Montana’s public lands as...	SD (1)	D (2)	SwD (3)	SwA (4)	A (5)	SA (6)	Mean
Places of scenic beauty	<1%	0%	<1%	1%	20%	79%	5.75
Places that provide a variety of natural areas	0%	0%	<1%	3%	32%	64%	5.60
Places that make me feel good	<1%	0%	1%	6%	31%	63%	5.55
Places everyone should see at least once	<1%	<1%	1%	9%	23%	66%	5.53
Places for wildness	0%	0%	<1%	8%	30%	62%	5.53
Places that provide open space	0%	<1%	<1%	7%	33%	60%	5.52
Symbols of Montana’s identity	0%	<1%	1%	8%	34%	56%	5.45
Places that give me ‘elbow room’	0%	0%	1%	9%	33%	56%	5.44
Wildlife sanctuaries	1%	<1%	1%	9%	30%	58%	5.43
Places that provide a feeling of freedom	0%	<1%	2%	9%	32%	56%	5.42
Places that protect fish and wildlife habitat	<1%	1%	1%	11%	31%	56%	5.41
Places for the enjoyment of people	0%	1%	1%	9%	39%	51%	5.37
Places for all living things to exist	<1%	1%	2%	9%	35%	53%	5.36
Places for recreational activities	<1%	<1%	2%	11%	36%	51%	5.35
Sites to renew my sense of personal well-being	0%	1%	2%	14%	31%	53%	5.33
Places for education about nature	<1%	<1%	1%	15%	35%	49%	5.30
Historic resources	<1%	<1%	<1%	18%	33%	49%	5.28
Tourist destinations	0%	1%	1%	14%	39%	46%	5.28
Protectors of threated and endangered species	<1%	1%	2%	15%	32%	49%	5.24
Places for scientific research and monitoring	0%	1%	3%	16%	42%	39%	5.15
Reserves of natural resources	1%	3%	8%	15%	32%	42%	4.97
Sacred places	1%	4%	7%	26%	28%	34%	4.79
Places that evoke a spiritual and/or religious connection in me	2%	4%	9%	28%	23%	34%	4.68
Social places	<1%	3%	9%	36%	31%	21%	4.55
Economic resources	3%	3%	10%	32%	32%	19%	4.46
Places to develop my skills and abilities	1%	3%	13%	38%	28%	18%	4.41
Places to be free from society and its regulation	6%	10%	16%	24%	20%	24%	4.13
Places that provide income (i.e., mining, logging, grazing)	6%	9%	14%	31%	25%	15%	4.03

1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree

As seen, results from the NPV Scale show a variety of values that nonresidents hold toward Montana’s public lands. It is clear that most visitors hold the public lands in high regard in terms of what public lands can do for them as well as society.

The next set of questions comes from the Modified NAV Scale. Some of the items in this scale ask the respondent to think of how they personally use the lands versus the more broad statements about public lands in the first scale. Frequency and means are shown in Table 6. For each item on this scale, respondents were asked the extent of agreement with each statement. The range of mean scores for this scale was more dispersed than the NPV Scale with a low score of 3.07 to a high score of 5.60 on a six point Likert Scale.

Four statements had a mean greater than five. Sixty-six percent of the respondents strongly agreed with the first statement that Montana’s public lands are valuable (m=5.60) and had the highest mean score. The next highest frequency for strongly agreeing was that viewing the scenery while driving Montana’s roads and highways is of value to the respondent. Forty-eight percent of the respondents strongly agreed with that statement.

Table 6: Modified NAV Scale

To what extent do you agree or disagree with the following?	SD (1)	D (2)	SwD (3)	SwA (4)	A (5)	SA (6)	Mean
Montana public lands are valuable.	<1%	0%	<1%	5%	29%	66%	5.60
Viewing the scenery while driving Montana’s roads and highways is of value to me.	0%	<1%	<1%	11%	41%	48%	5.36
I value Montana for its access to public lands.	0%	1%	2%	13%	47%	38%	5.20
I need to know that untouched natural areas exist in Montana.	<1%	3%	5%	18%	31%	43%	5.05
Even just driving Montana’s roads and highways makes me feel connected to the land.	<1%	2%	5%	33%	37%	24%	4.75
I don’t have to go into the backcountry to feel a sense of value for Montana’s public lands.	1%	3%	7%	23%	45%	22%	4.74
Valuing the natural environment is part of my spiritual and/or religious beliefs.	4%	9%	9%	27%	26%	25%	4.38
If I were unable to use Montana’s public lands, I would support their existence.	5%	6%	15%	23%	29%	21%	4.29
Montana’s public lands are valuable because they produce wood products, jobs, and income for people.	2%	7%	11%	37%	31%	13%	4.27
If I were unable to use Montana’s public lands, I would still enjoy them.	11%	18%	22%	26%	17%	6%	3.40
I can distinguish between private lands and public lands while driving in Montana.	3%	21%	31%	27%	14%	3%	3.38
If I were unable to recreate on Montana’s public lands, I think they could be used for other things.	12%	16%	25%	28%	16%	5%	3.33
It does not matter to me whether a natural area is publicly or privately owned.	15%	23%	25%	18%	16%	4%	3.07

1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree

The remaining statements on the Modified NAV Scale lend a more diverse range of responses which is evident as the mean score drops to a high of 5.20. Five statements had means in the four point range

and were still on the agreement end of the scale; however, the dispersion of agreement is less enthusiastic. Those five statements include: even just driving Montana's roads and highways makes me feel connected to the land; I don't have to go into the backcountry to feel a sense of value for Montana's public lands; valuing the natural environment is part of my spiritual and/or religious beliefs; if I were unable to use Montana's public lands I would still support their existence; and Montana's public lands are valuable because they produce wood products, jobs, and income for people.

The final four statements have mean scores from 3.40 down to 3.07. These final statements in the lower section of the mean scores table are all personal statements: if I were unable to use Montana's public lands, I would still enjoy them; I can distinguish between private lands and public lands while driving in Montana; if I were unable to recreate on Montana's public lands, I think they could be used for other things; and it does not matter to me whether a natural area is publicly or privately owned. A high of 15 percent of respondents strongly disagreed that, "It does not matter to me whether a natural area is publicly or privately owned." The more personal statements related to use resulted in a lower mean score.

In summary, the Modified NAV Scale appears to signify that visitors find public lands extremely valuable, but once their personal use of those lands is possibly reduced, the lands are less valued. This scale appears to highlight that societal use of public lands for economic reasons is not as valuable as personal use of public lands. It also indicates that it's not just about viewing the natural area since many respondents were in disagreement about public versus private lands. In other words, if "I" cannot use the natural area (because it is private property), then it has less value to "me." This is confirmed by the high numbers of respondents who said access to public lands was valuable to them.

Research Question 3: Are there significant differences in public land values between nonresident recreationists?

Respondents were asked to select all of the activities in which they participated on Montana's public lands (Table 7). Viewing wildlife was the most frequently participated activity (75 percent of respondents). More than half but less than three quarters of respondents selected participating in relaxation, viewing natural features, driving for pleasure, hiking, and viewing historical sites. Forty-eight percent of respondents participated in picnicking and 40 percent selected developed camping as an activity they had done on Montana public lands. Less than one third of respondents participated in each of the activities of nature center activities, fishing, resort use, and primitive camping ranging from 26 to 32 percent.

Twenty percent or fewer of the respondents participated in the 16 remaining activities while in Montana. These activities included backpacking, non-motorized water activities, nature study, some other activities not listed, horseback riding, downhill skiing or snowboarding, bicycling, motorized water activities, hunting, off highway vehicle use, cross country skiing, snowmobiling, gathering natural products, motorized trail activity, other non-motorized activity, and motorized activity (Table 7).

Table 7: Recreation Activity Participation in Montana

Activity List	N	Yes
Viewing wildlife	389	75%
Relaxing	381	73%
Viewing natural features	368	71%
Driving for pleasure	353	68%
Hiking	330	63%
Viewing historical sites	316	61%
Picnicking	252	48%
Developed camping	210	40%
Nature center activities	164	32%
Fishing	150	29%
Resort use	142	27%
Primitive camping	134	26%
Backpacking	106	20%
Non-motorized water activity	95	18%
Nature study	92	18%
Some other activity	82	16%
Horseback riding	77	15%
Downhill skiing/snowboarding	68	13%
Bicycling	66	13%
Motorized water activity	63	12%
Hunting	57	11%
Off highway vehicle use	39	8%
Cross-country skiing	39	8%
Snowmobiling	38	7%
Gathering natural products	38	7%
Motorized trail activity	37	7%
Other non-motorized	31	6%
Other motorized activity	17	3%

After identifying participation in recreation activities, respondents were placed into mutually exclusive activity segments (Table 8) through a-priori segmentation. The segmentation process started with the Motorized group selection. If respondents had participated in any of the selected motorized activity, they were placed in that group solely. This was followed by selecting all respondents who had participated in any of the Active group activities. Those who were “active” were placed into the Active group solely. Finally, all remaining respondents were placed into the Passive group since they had neither participated in Motorized or Active activities.

The Active group had the highest number of individuals with 57 percent of the respondents being grouped here. The Active group was followed by the Motorized activity group with 25 percent of respondents while the Passive group had the fewest respondents with 17 percent.

Table 8: Recreation User Group Segments by Activity

Segments	N	%
Active (fishing, hunting, gathering, hiking, backpacking, horseback riding, bicycling, downhill skiing/boarding, cross-country skiing, non-motorized water activities)	257	57%
Motorized (off-highway vehicle (OHV) use, motorized trail activity, snowmobiling, motorized water activity, other motorized activity)	114	25%
Passive (developed camping, primitive camping, nature center activities, nature study, viewing wildlife, viewing natural features, visiting historic sites, picnicking, driving for pleasure)	77	17%

One-way analysis of variance (ANOVA) was conducted to determine if there were differences between the values that each recreation group held for public lands. ANOVA provides the analysis which indicates differences. It does not suggest which group is different from another; therefore, the Bonferroni post hoc tests were used to note the differences between the groups.

First of all, looking at differences in values between groups provides insight into what makes groups stand out from another. However, it is just as interesting to see if groups are similar. Through the ANOVA statistical analysis, values identified in the NPV Scale showed twelve statements out of 28 with differences between the groups (Table 9) indicating there were more similarities than differences in the motorized, active, and passive recreationists (Table 10).

Table 9: Significant Differences in Values between Groups in the NPV Scale Items

I value Montana's public lands as...	Mean Scores			F-test
	Motorized	Active	Passive	
Places of scenic beauty	5.84	5.80	5.54	8.200***
Sites to renew my sense of personal well-being	5.41	5.43	5.03	7.591***
Places that provide open space	5.60	5.56	5.28	6.587**
Places that make me feel good	5.62	5.62	5.27	9.873***
Places that provide a variety of natural areas	5.72	5.62	5.36	9.782***
Places that provide a feeling of freedom	5.56	5.44	5.17	6.101**
Historic resources	5.52	5.23	5.23	5.168**
Places for wildness	5.51	5.62	5.37	4.725**
Symbols of Montana's identity	5.42	5.56	5.32	4.513*
Places for recreational activities	5.49	5.34	5.19	3.146*
Places that give me elbow room	5.60	5.44	5.22	6.366**
Places that provide income (i.e., mining, logging, grazing)	4.19	3.84	4.24	3.813*

*p<.05 **p<.01 ***p<.001; Scale: 1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree;

Table 10: NPV Scale Values with no Group Differences

I value Montana's public lands as...	Mean Scores		
	Motorized	Active	Passive
Wildlife sanctuaries	5.46	5.50	5.28
Places everyone should see at least once	5.59	5.52	5.38
Places that protect fish and wildlife habitat	5.46	5.46	5.28
Places for education about nature	5.43	5.33	5.20
Places for the enjoyment of people	5.39	5.42	5.33
Places for all living things to exist	5.31	5.41	5.25
Protectors of threatened and endangered species	5.27	5.26	5.21
Places for scientific research and monitoring	5.19	5.21	5.11
Tourist destinations	5.29	5.25	5.29
Reserves of natural resources for future use	5.07	4.94	5.03
Sacred places	4.88	4.84	4.70
Social places	4.62	4.53	4.60
Economic resources	4.54	4.35	4.70
Places to develop my skills and abilities	4.59	4.38	4.28
Places to be free from society and its regulation	4.20	4.07	4.09
Places that evoke spiritual and/or religious connection in me	4.69	4.79	4.51

Scale: 1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree

In analyzing the differences and similarities of values towards Montana's public lands, in almost all cases, Passive users have less agreement with the value statements than either the Motorized or Active groups. The few statements where the Passive group held higher values were "use values," (i.e., places that provide income (mining, logging, grazing) and economic resources). The other two groups were less likely to value public lands for those purposes.

The values tested in the Modified NAV Scale identified six of 13 statements where differences between the groups existed (Table 11) and seven statements where no differences were found (Table 12).

Table 11: Significant Differences between Groups in the Modified NAV Scale Items

To what extent do you disagree or agree with the following?	Mean Scores			F-test
	Motorized	Active	Passive	
It does not matter to me whether a natural area is publicly or privately owned.	2.97	2.97	3.46	3.949*
If I were unable to use Montana's public lands, I would still enjoy them.	3.34	3.34	3.78	3.077*
Montana public lands are valuable.	5.63	5.63	5.42	3.676*
If I were unable to use Montana's public lands, I would support their existence.	4.06	4.44	4.23	3.036*
I value Montana for its access to public lands.	5.32	5.21	4.90	7.124***
Montana's public lands are valuable because they produce wood products, jobs, and income for people.	4.46	4.11	4.47	5.089**

*p<.05 **p<.01 ***p<.001; Scale: 1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree

Table 12: Modified NAV Scale with no Group Differences

To what extent do you disagree or agree with the following?	Mean Scores		
	Motorized	Active	Passive
Even just driving Montana’s roads and highways makes me feel connected to the land.	4.83	4.70	4.90
Viewing the scenery while driving Montana’s roads and highways is of value to me.	5.38	5.33	5.43
I don’t have to go into the backcountry to feel a sense of value for Montana’s public lands.	4.68	4.70	4.92
I can distinguish between private lands and public lands while driving in Montana.	3.40	3.35	3.58
If I were unable to recreate on Montana’s public lands, I think they could be used for other things.	3.30	3.35	3.42
Valuing the natural environment is part of my spiritual and/or religious beliefs.	4.46	4.47	4.21
I need to know that untouched natural areas exist in Montana.	5.05	5.10	4.83

Scale: 1= strongly disagree; 2= disagree; 3= somewhat disagree; 4= somewhat agree; 5= agree; 6= strongly agree

The group differences in the Modified NAV Scale show that Passive users are less concerned with the landownership (public or private) and would still enjoy them if they couldn’t use them. Interestingly, though, Active users had the highest agreement in the statement, ‘If I were unable to use Montana’s public lands, I would still enjoy them.’ This indicates an existence value by Active users. The idea of existence values builds on bequest values. These refer to a value that “relates to a benefit that humans obtain by knowing that a natural place continues to exist” (Winter 2007, p.601). The Active users were less likely to agree that Montana’s public lands are valuable because they produce wood products, jobs, and income for people. The Motorized group agreed with this statement, perhaps because logging has historically provided the roads that OHV users access for their recreation.

After conducting ANOVA, the Bonferroni post hoc tests provided insight into where the significant differences existed. In other words, which recreation group held higher values on certain statements than the other groups? The following discussion compares the Motorized group to the Active group; the Motorized group to the Passive group, and; the Active group to the Passive group.

The Motorized recreationists compared to the Active recreationists had the least number of significant differences (Table 13). When comparing the Motorized and Active groups, the Motorized group had a higher mean score for two of the statements: (1) I value Montana’s public lands as places of scenic beauty; and (2) Montana’s public lands are valuable because they produce wood products, jobs, and income for people. The Active group had a higher mean score for the statement if I were unable to use Montana’s public lands I would still support their existence (Table 13).

Table 13: Three Differences between Motorized and Active Groups

Value Statement	Motorized	Active
I value Montana's public lands as places of scenic beauty.	+	
If I were unable to use Montana's public lands I would still support their existence.		+
Montana's public lands are valuable because they produce wood products, jobs, and income for people .	+	

+ group with the higher mean score

Essentially, the two groups segmented in Table 13 are active users of Montana's public lands. Some used motors to transport them onto the lands (Motorized) while others used muscle power to transport them onto public lands (Active), but both groups recreated actively on the lands. The small number of differences shows that these groups may be more similar in their values of Montana's public lands than previously thought. Perhaps both of these user groups value the public lands for providing opportunities for the recreation activities in which they participate. For land managers and recreation planners, this could be a significant finding.

Comparing Motorized to Passive, numerous differences emerged. As shown in Table 14, the mean values scores for the Motorized group were higher than the Passive recreationists for all of the items except the one value statement, "If I were unable to use Montana's public lands, I would still enjoy them." This statement had a lower mean score for the Motorized group which actually means they more strongly disagree with that statement leading one to understand that being able to use public lands is valuable to the motorized group. Perhaps this is due to the fact that public lands are not required for the recreation activities in the Passive group and therefore they are less likely to value those items.

Table 14: Nine Differences between Motorized and Active Groups

Value Statement	Motorized	Passive
I value Montana's public lands as places of scenic beauty.	+	
I value Montana's public lands as places for recreational activities.	+	
I value Montana's public lands as sites to renew my sense of personal well-being.	+	
I value Montana's public lands as places that provide open space.	+	
I value Montana's public lands as places that make me feel good.	+	
I value Montana's public lands as places that give me elbow room.	+	
I value Montana's public lands as places that provide a variety of natural areas.	+	
I value Montana's public lands as places that provide a feeling of freedom.	+	
If I were unable to use Montana's public lands, I would still enjoy them.		+

+ group with the higher mean score

Lastly, there were 13 differences between the Active and Passive groups (Table 15). These two groups had the highest number of significant differences in values statements. The Passive group had a higher mean score for only three of the statements: (1) It does not matter to me whether a natural area is publicly or privately owned; (2) If I were unable to use Montana's public lands, I would still enjoy them;

and (3) Montana’s public lands are valuable because they produce wood products, jobs, and income for people.

Table 15: Thirteen Differences between Active and Passive Groups

Value Statement	Active	Passive
I value Montana’s public lands as places of scenic beauty.	+	
I value Montana’s public lands as places for wildness.	+	
I value Montana’s public lands as symbols of Montana’s identity.	+	
I value Montana’s public lands as sites to renew my sense of personal well-being.	+	
I value Montana’s public lands as places that provide open space.	+	
I value Montana’s public lands as places that make me feel good.	+	
I value Montana’s public lands as places that provide a variety of natural areas.	+	
I value Montana’s public lands as places that provide a feeling of freedom.	+	
It does not matter to me whether a natural area is publicly or privately owned.		+
If I were unable to use Montana’s public lands, I would still enjoy them.		+
I value Montana for its access to public lands.	+	
Montana’s public lands are valuable because they produce wood products, jobs, and income for people.		+
Montana public lands are valuable.	+	

+ group with the higher mean score

The Active group has a higher level of value for Montana’s public lands than the Passive group (similar to the Motorized having higher values than passive). It appears the Passive group is more of a ‘viewer’ of the natural areas and much less a ‘user’ of the natural areas. Like the Motorized, this suggests that the Active group needs public lands to participate in the recreation activities in that segment. The Passive group, on the other hand, holds a higher value for Montana’s public lands producing wood products, jobs, and income for people. It appears the Active group may have a more personal use value for Montana’s public lands than the Passive group.

CONCLUSIONS & RECOMMENDATIONS

This study analyzed the demographics, activities, and natural area values held by nonresident visitors to Montana’s public lands. The panel sample used for this study was very similar in demographic variables to all Montana’s nonresident visitors and can be viewed as a good representation of nonresident values of Montana’s public lands.

In summary, nonresidents value Montana’s public lands. Based on mean scores, respondents rated value statements positively. These values were high for both intrinsic and extrinsic use as well as existences values (i.e., for personal recreation use, for societal use, and for preservation of lands). However, once values were compared based on types of recreation activity participation, differences emerged.

In this study, respondents were separated into three basic activity groups (Motorized, Active, and Passive) differing from previous research that only separated motorized recreationists from non-motorized recreationists. In those studies, differences in values were usually found between the two groups and therefore we would have expected more differences between Motorized and Active and Motorized and Passive.

The significance of this study is that differences were found, but not between the Motorized and the other two groups. Instead, the Passive group was more likely to have lower values toward the natural areas than the Motorized and Active recreationists. Motorized and Active groups were very similar in their values toward public lands. These data appear to indicate that being active on the public lands is more of a differentiating variable than the motorized/non-motorized variable found in other studies. Respondents who were inactive (the Passive group) held less value for Montana's public lands, and in many instances, were significantly different from the other two groups.

What does this mean? First of all, the 'windshield' tourist ultimately holds less value for Montana's natural areas than other visitors. While they 'value' the lands, there is less passion toward the land and its variety of uses. This group may be less likely to step forward to save a piece of land for future generations because they do not see the importance of it compared to other groups. This is a bit disconcerting when even as early as 1991, National Park Service officials noted that the majority of the 60 million tourists who visited their parks in 1990 did so as "windshield tourists," doing most of their sightseeing from the road or by walking a few yards from scenic turnouts (Coates 1991). Does that mean that the value of our national parks will decrease in the public's mind as more people stay to the roadways?

On the other hand, the most significant finding is the similarity in values between the Motorized and Active groups. Other research has shown the conflicts that arise when these two groups meet at trailheads. However, this research shows that values are generally aligned between the two groups. This suggests that there may be some common ground between the two user groups and provide support for values-based conversations when future conflict may occur.

Recommendations for Decision Makers

The results from this study developed even more support for the idea that land managers and tourism professionals need to be working together. Tourism and recreation is a large part of Montana's economy (Institute, 2012) and public land makes up one-third of Montana's land-base. Understanding the values that visitors have for Montana's public lands can help land managers and tourism professionals meet the needs of users. Knowing the underlying value instead of solely the demographics of the nonresident visitors to Montana can facilitate a long-term approach to the advancement of tourism and the respect needed for public lands in the state of Montana. As socioeconomic factors tend to change over time, those nonresidents who are attracted to Montana may be more likely to have values that Montana's public lands accommodate.

Public lands at the national level (i.e., Forest Service, Park Service, and BLM), rely on federal funding. These monies come from outside the state of Montana where these nonresident visitors reside. This

study showed that nonresidents still value Montana's public lands even if they were unable to use them which supported existence and bequest values for Montana's public lands. Schuster, Tarrant, and Watson (2003) may say it best: "it is a constitutional right of all Americans to have their values represented by public policy concerning public land and to have an opportunity to realize desired values on public land...the process of applying social values is a political, academic, and civic process" (p. 364). According to the results of this study, Montana's federally owned public lands have support around the country and world. If funding or other issues are threatening the lands that nonresident visitors value, the tourism industry could become a partner with the land managers to address the threats. This could be accomplished through a few avenues. For example, the industry could share client data bases to drum up support. Or if lobbying is a possible action, the tourism industry might be able to help through financial support. These are just a couple ideas where the land managers and tourism industry could partner together for a mutual benefit.

As mentioned earlier, Active and Motorized users (those who actually actively use the land) have similar values, yet in many settings those two groups have conflicting issues. When conflicts occur, it is recommended that managers work with the two groups by starting with values they agree upon. This will help each group see commonalities rather than differences and the conversations can begin with agreement rather than sides being taken.

This study confirmed that visitors to Montana are generally not aware of what type of public lands they visited. Only the National Parks visitors could say with certainty, that they had visited a national park since an insignificant 2 percent indicated "they did not know" if they had visited. All the other public lands had anywhere from 14 to 64 percent of the visitors who said "they did not know" if they visited the stated lands. While land managers lament the lack of awareness of their lands because they need public support for funding and other needs, perhaps the question is being asked all wrong. For example, rather than promoting hiking trails in the Lolo National Forest or BLM lands, all the land agencies could promote all hiking trails. Visitors can then choose the type of hike they desire based on location, grade, scenic vistas, numbers of people on the trail, and wildlife viewing opportunities. If it points them to a national forest, a national park, BLM lands, or a wildlife refuge, it doesn't matter. The idea is to guide the visitor to their desired activity in their desired setting. Ultimately everyone would be happier.

Recommendations on Future Research

There are additional ways to look at the data from this study. Since the activity segments had already been developed to look at a research question from this study, it might be useful to look at the differences in activity segments and their use of public lands. For example, which public lands do the motorized users visit most frequently? The demographics of each of the segments might also be of interest to land managers and tourism industry professionals. This would allow for even greater distinction between the three groups beyond their values for Montana's public lands.

Another way to look at the values by activity group would be to ask the respondent to identify themselves by the recreation activity they most identify with (whether it be the one they spend the most time on or the activity they identify themselves by most). Thapa (2010) used this approach and

while he said it was limiting to the respondent, it can still be useful for analysis purposes. Then ask them to respond to the value statements in that frame of mind (i.e., “as an OHV user, I value Montana’s public lands as...”). Would differences show up based on primary activity? If so, what would this mean for land managers?

A qualitative component to this data would be a nice addition. A literature review was used to develop the scales, but what do these concepts mean to each person? For example, the respondent could elaborate on what “wildness” means to them. In addition, when determined that public lands are valuable to the respondent, simply ask “what do you mean by valuable?” This could provide insight into the ‘why’ lands are valuable. For example, is it for OHV use or hiking use or simply for viewing? Values could possibly be defined differently for each individual hence a more in-depth qualitative analysis might be able to narrow the values even more than what was available through the use of the scales in this study.

Perhaps values are not even the right way to be looking at what is important. Should we instead be focusing on what makes up the experience first? Identify what is important about these places and then examine it from a different angle. For example, some research questions could be: (1) is the environmental quality of a place more important to one recreation activity group than another? (2) Do you value the environmental quality of a place more as a hiker than a dirt biker? (3) Is it important to have wildflowers to look at or is that not necessary? (4) Is it more the experience than the physical presence of things that is important (or that you value more)?

In summary, this study provided a greater understanding of the value of natural areas in Montana held by nonresident visitors. It confirmed that the public lands and access to them are of great value. The tourism industry and land managers have a common link...the nonresident visitor. Understanding this visitor and keeping the visitor happy can provide environmental, economic, and societal benefits to Montana now and for future generations.

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APPENDIX

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for us to learn your opinions. Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential. If you have questions at any time about the survey or the procedures, you may contact my advisor: Norma Nickerson, ITRR Director, 406-243-5686 or by email at itrr@cfc.umt.edu

Thank you very much for your time and support. Please start the survey now by clicking on the Continue button below.

Kind Regards,
Megan Tanner
Graduate Student, College of Forestry and Conservation, University of Montana

This survey program does not allow for you to go back to a previous response! Please answer each question as accurately as possible before moving forward.

Is Montana your permanent residence?

1. Yes
2. No

Have you visited Montana?

1. Yes
2. No

Please think about the extent to which you value certain aspects of Montana and its landscape in relation to public lands.

I value Montana's public lands as. . .

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Places of scenic beauty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildlife sanctuaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places everyone should see at least once	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that protect fish and wildlife habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for education about nature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for the enjoyment of people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for all living things to exist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for wildness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Symbols of Montana's identity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protectors of threatened and endangered species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for recreational activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places for scientific research and monitoring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tourist destinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sites to renew my sense of personal well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reserves of natural resources for future use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sacred places	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social places	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places to develop my skills and abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places to be free from society and its regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that provide open space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that make me feel good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that give me elbow room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that provide a variety of natural areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that provide a feeling of freedom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that evoke spiritual and/or religious connection in me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Places that provide income (i.e., mining, logging, grazing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To what extent do you disagree or agree with the following. . .

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
It does not matter to me whether a natural area is publicly or privately owned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Even just driving Montana's roads and highways makes me feel connected to the land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Viewing the scenery while driving Montana's roads and highways is of value to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't have to go into the backcountry to feel a sense of value for Montana's public lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can distinguish between private lands and public lands while driving in Montana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If I were unable to use Montana's public lands, I would still enjoy them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I were unable to use Montana's public lands, I would support their existence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I were unable to recreate on Montana's public lands, I think they could be used for other things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I value Montana for its access to public lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Valuing the natural environment is part of my spiritual and/or religious beliefs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Montana's public lands are valuable because they produce wood products, jobs, and income for people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I need to know that untouched natural areas exist in Montana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Montana public lands are valuable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

While in Montana, have you visited National Park System lands? (i.e., parks, battlefields, monuments)

1. Yes
2. No
3. Don't know

Please specify names of Park Service sites visited:

While in Montana, have you visited National Forests or Grasslands?

1. Yes
2. No
3. Don't know

Please specify names of National Forests and/or Grasslands visited:

While in Montana, have you visited National Wildlife Refuges?

1. Yes
2. No
3. Don't know

Please specify names of Wildlife Refuges visited:

[Redacted]

While in Montana, have you visited Bureau of Land Management lands?

- 1. Yes
- 2. No
- 3. Don't know

Please specify names of Bureau of Land Management lands visited:

[Redacted]

While in Montana, have you visited Montana State Parks? (excluding State Fishing Access Sites)

- 1. Yes
- 2. No
- 3. Don't know

Please specify names of Montana State Parks visited:

[Redacted]

While in Montana, have you visited Montana State Fishing Access Sites?

- 1. Yes
- 2. No
- 3. Don't know

Please specify names of State Fishing Access Sites visited:

[Redacted]

While in Montana, have you visited Montana Department of Natural Resource lands?

- 1. Yes
- 2. No
- 3. Don't know

Please specify names of State Department of Natural Resource lands visited:

[Redacted]

While in Montana, have you visited U.S. Army Corps of Engineer sites? (i.e., lakes)

1. Yes
2. No
3. Don't know

Please specify U.S. Army Corps of Engineer lakes visited:

While in Montana, have you visited Bureau of Reclamation sites? (i.e., lakes)

1. Yes
2. No
3. Don't know

Please specify Bureau of Reclamation lakes visited:

Please select all of the activities you have participated in on Montana public lands:

1. Developed camping
2. Primitive camping
3. Resort use
4. Nature center activities
5. Nature study
6. Viewing wildlife
7. Viewing natural features
8. Viewing historical sites
9. Relaxing
10. Picnicking
11. Off highway vehicle (OHV) use
12. Motorized trail activity
13. Snowmobiling
14. Driving for pleasure
15. Motorized water activity
16. Other motorized activity
17. Non-motorized water activities
18. Fishing
19. Hunting
20. Gathering natural products
21. Hiking/walking
22. Backpacking
23. Horseback riding
24. Bicycling
25. Downhill skiing/snowboarding
26. Cross-country skiing

27. Other non-motorized activities
28. Some other activity

In what U.S. state, Canadian province, or foreign country do you permanently reside?

What is your gender?

1. Female
2. Male

In what year were you born?

What best describes your annual household income? (in USD)

1. Less than \$50,000
2. \$50,000 to less than \$75,000
3. \$75,000 to less than \$100,000
4. \$100,000 to less than \$150,000
5. \$150,000 to less than \$200,000
6. \$200,000 or greater

What is your highest level of education completed?

1. Some high school
2. High school diploma or equivalent (GED)
3. Some college
4. Associates degree
5. Bachelors degree
6. Masters degree
7. Doctorate or professional degree

Thank you for your time!