



Research Note 2014-3 Updated 1/2018

Statewide Nonresident Travel Survey

Survey Methods & Data Analysis

Introduction

July 1, 2009 marked the beginning of a continuous statewide data collection effort by the Institute for Tourism & Recreation Research. The Statewide Nonresident Travel Survey is conducted throughout Montana, and the resulting data are analyzed and made available to the public on the ITRR website on a quarterly basis. Statewide visitation and traveler spending estimates, as well as an analysis of the contribution of nonresident travel to Montana's economy, are published annually. This research note provides information regarding the survey methods and data analysis process.

Survey Population

The population of interest for the Statewide Nonresident Travel Survey is all nonresident travelers in Montana, including all international travelers, as well as domestic, out-of-state travelers.

Sampling Schedule & Locations

ITRR currently employs 10 surveyors, covering eight areas, in various locations around the state. Each surveyor/area averages 25 to 29 working hours per week, year-round, including travel time to survey locations, survey data collection, and highway and airport proportion counts (used to help determine the total volume of nonresident traffic entering the state via highways and airports). The sampling schedule allows survey shifts and proportion counts to cover a wide range of days and times during which visitors may be travelling, and ensures that the data is representative of the variability of all types of travelers. However, surveyor shifts generally occur between 7:00 am and 7:00 pm at gas stations and rest stops, and between 5:00 am and 9:00 pm at airports.

Surveying occurs at sites considered to be unbiased to specific types of travelers: gas stations, rest areas, and airports. Permission to survey has been acquired for each location. The current list of survey communities includes the following:

- Airports: Billings, Bozeman, Great Falls, Helena, Kalispell, Missoula;
- Kalispell area: Kalispell, West Glacier, Hungry Horse, Columbia Falls, Whitefish, Polson, Libby, Eureka, Bigfork, Troy;
- Missoula area: Missoula, Bonner, Frenchtown Wye, Lolo, Hamilton, St. Regis, Thompson Falls;
- Dillon area: Dillon, Rocker, rest area along I-15, Anaconda, Butte;
- Shelby area: Shelby, Cut Bank, St. Mary, Havre;
- Great Falls area: Great Falls, Helena, Lewistown;
- Bozeman area: Bozeman, Belgrade, Four Corners, Big Sky, West Yellowstone, Ennis, Three Forks, Townsend, Livingston, Gardiner, Big Timber, White Sulphur Springs, Harlowton;
- Billings area: Billings, Crow Agency, Red Lodge, Columbus, Hardin, Laurel;
- Eastern MT area: Culbertson, Glasgow, Glendive, Miles City, Sidney, Plentywood, Broadus, Forsyth, Terry.

The list may be expanded or reduced if data analysis suggests either a need for more variability in data collection sites or data volume collected at a site is not sufficient to justify the resources required to continue sampling at that site.

Proportion counts are conducted during survey shifts to enable determination of the proportion of nonresident to resident travelers entering the state. Airport proportion counts are obtained by questioning boarding air passengers about their place of residence. A random sampling of days, airlines, and times of day is used. Highway proportion counts are obtained by surveyors observing license plates as vehicles pass by, and categorizing vehicles as resident or nonresident. A random sampling of days and time of day is used to schedule hour-long observations at 21 border points around the state to ensure representative coverage of traffic flows, with the number of counts conducted at each site during the month based upon highway traffic load. Highway proportion counts are only conducted during daylight hours.

Data Collection Methods

Two separate, but related, survey instruments are used to collect the nonresident travel data. An on-site survey is conducted by the surveyors at all of the previously mentioned locations; a follow-up survey is distributed by the surveyors to those nonresidents who participate in the on-site survey. (The survey instruments can be found in the appendix.)

Surveyors approach travelers at gas stations, rest areas, and airports to ask if they are from out-of-state, and therefore eligible to take part in the survey. Data are collected using iPads via the iForm application. The on-site survey form obtains information regarding mode of travel; group type and size; state, province, or country of residence; purpose of trip; point of entry into the state; length of stay in Montana; and expenditures during a 24-hour period. Upon completion of the on-site survey, respondents are asked to participate in the follow-up survey, and are given a postage-paid business reply envelope containing (1) a paper survey form, (2) a letter introducing ITRR and explaining the survey, and (3) a slip informing them of the annual incentive drawing (either 2 round-trip airline tickets or a \$1000 Visa gift card) and providing the link to complete the survey on-line, if they prefer.

The follow-up survey is a more extensive survey, and, as mentioned, can be completed via either a mail-back paper form or the on-line form. The data collected via these forms includes activities, sites visited, routes driven, satisfaction, attractions to the state, information sources used, and technology use.

For international visitors who are uncomfortable with or unable to participate in the survey in the English language, the surveyors can offer to the visitors the option of completing the entire survey in one of several foreign languages. Currently, the survey instrument is translated into Chinese, French, German, Italian, and Spanish. If a surveyor approaches a visitor who cannot speak English, the surveyor can give to the person a card which briefly introduces the study in each of the five languages. The card, which is given to the visitor, provides a link to the entire survey, on-line, in each of the languages.

Working with the Nonresident Travel Data

Merging the Two Data Sets

Data from the two separate survey instruments are cleaned and coded as needed (e.g., the length of stay is delimited to ensure exceptionally long visits to the state do not skew the average length of stay). Although the survey is confidential, a unique survey ID number, matching the ID printed on the follow-up survey envelope, is entered into the survey form along with each respondent's on-site data. The unique ID numbers allow the respondents' on-site data to be merged with their follow-up survey data. Merging the two sets of data allows for a more complete picture of traveler characteristics and experiences.

Weighting

To allow the data to be representative of all travelers to Montana, the data is weighted in two ways:

- Based on entry point into Montana this adjusts for any proportional disparities between where vehicles enter the state and the number of surveys collected from respondents entering at those points.
- Based on purpose of trip this adjusts for any proportional disparities between the relative distributions amongst main purposes of trip reported on the on-site versus follow-up surveys. Not all respondents return the follow-up survey; weighting the follow-up data to the on-site data ensures that the full data set represents the population of travelers.

Expenditure Data

The expenditure data collected represents a visitor group's 24-hour-period spending in Montana. (Please refer to the survey instrument in the appendix for the expenditure categories.) In addition to the amount spent in each category, the location of the expenditure is recorded. During data cleaning, each expenditure location is coded for the county and region in which it occurred to allow for regional expenditure analysis. Expenditure data is delimited to prevent outliers from skewing the average expenditure amount within each category. Any expenditures within a category above the cutoff amount, defined as three standard deviations plus the mean, is reduced to that cutoff amount. The mean for each delimited expenditure category is calculated, resulting in the average daily spending per group. An adjustment is made to reduce the mean calculated for the accommodations categories based on bed tax collections. Adding together the means for each expenditure category results in the average daily spending per group. This figure is used in combination with the estimate of total visitation to the state to determine the total amount of nonresident travel spending in Montana.

Nonresident Visitation Estimation Model

ITRR produces an annual estimate of the total volume of nonresident travelers and travel groups to Montana. A variety of information sources, including both primary and secondary data, are incorporated into the model to produce these figures. Primary data include the proportion counts recorded by the surveyors and average group size from the survey data. Secondary sources include airport deboardings (from 8 Montana airports) and traffic counts from MT, ND, WY and ID Departments of Transportation, as well as border crossing data from U.S. Customs and Border Patrol (39 count sites, in all). Various adjustments are made within the model to account for things such as monthly traffic fluctuations in cases where only a yearly traffic count is available, and travelers repeatedly entering the Montana when travelling in/through Yellowstone National Park.

Aside from such adjustments, the Nonresident Visitation Estimation Model essentially works as follows:

of cars entering MT X nonresident % of cars entering X average group size = total number of nonresident travelers

Estimating Statewide Nonresident Travel Spending

Once analysis of the survey expenditure data is complete, and visitation estimates have been produced using the visitation model, an estimate of statewide nonresident travel spending is produced. The calculation used to reach this figure is as follows:

Average daily group spending X average length of stay X total # of visitor groups = total MT nonresident travel spending

Economic Contribution of Nonresident Travel to Montana

IMPLAN economic analysis software and data are used to produce estimates of the impact of nonresident travel spending in Montana. A model using IMPLAN data specific to Montana is constructed each year, and total spending within each category is entered into the model under the appropriate IMPLAN economic sector. Several of the expenditure categories require close inspection of the data to determine what sectors should be selected for the model and the appropriate amount of money to be allocated to those sectors.

In addition to the statewide estimates, ITRR has produced estimates of nonresident travel spending within the state's six travel regions and counties for which enough data exists.

Access to and Use of Nonresident Travel Data

The nonresident travel data is available for public use via the Interactive Data button on the ITRR homepage. Users can select the quarter or quarters of data they wish to view, and may select the data by a variety of options, allowing them to view the data most useful to them. Selection options include, but are not limited to:

- Visitors to specific sites in Montana (e.g., national parks, museums, etc.)
- Visitors of a certain age range
- Visitors entering the state via specific travel modes (e.g., car/truck, RV/trailer, airplane, etc.)
- Visitors who participated in specific activities (e.g., hiking, golfing, rafting, etc.)

The visitation and spending estimates are published yearly on the ITRR website. All of the information resulting from the Nonresident Travel Survey is frequently used by marketers, business owners, and legislators, to name just a few, and access to the high quality information provided by ITRR is essential for many.

Appendix A

Nonresident Travel Survey: Instrument for on-site data collection

INTRODUCTION for Gas Stations or nonresident travelers in Montana. I your travel in Montana?			-		-
INTRODUCTION FOR Airport: I'm Montana. Do you permanently resid Montana?			•		
INSTRUCTION: If they outright refus	se, write "refused" in the	first question	n (residence)		
In what US State, Canadian Province	e, or Foreign Country do	you permane	ently reside?		
Have you ever visited Montana before Yes No	ore?				
Purpose of Trip (ALL Purposes)					
Script: "I am going to list all of the p (Select ALL that apply) • Vacation, recreation, or ple • Visit friends, relatives, fami • Just passing through	asure	• <u>\$</u>	a on THIS trip and just say y Shopping Business, convention, meet Other		or no to each."
Of these purposes you just mention only one)	ned (replied 'yes' to), wha	at is the MAIN	N purpose for you being IN I	MON	NTANA? (Select
Vacation, recreation, or pleVisit friends, relatives, famiJust passing through		• 1	Shopping Business, convention, meet Other	ing	
What is your travel group size?					
123	456	• 8	7 8 9	•	10 More than 10
How many in your travel group are	visiting Montana for the	very first tim	e?		
• 0	• 3	•	6	•	9
• 1	• 4		7	•	10
• 2	• 5	• 8	8	•	More than 10
What option best describes your tra	avel party/group?				

- Self
- Couple
- Immediate Family
- Extended Family

- Friends
- Business Associates
- Organized Group or Club

Car/truckRV/trailer	BusTrain
AirMotorcycle	• Other
Where did you most recently enter Montana?	(Enter code for entry point location)
How many nights has your group already spent	in Montana since you most recently entered the state?
How many additional nights is your group plan	ning to spend on this trip?
What is your zip/postal code?	_
Script: Now I am going to ask you about your s	pending patterns IN MONTANA during THIS trip.
Did you rent a car while IN Montana on THIS tr Yes No Don't know	ip?
	e cost of the rental car for a 24-hour period)
In what TOWN did you rent the car/RV?	
Did you spend money at a Farmers Market or F your trip, not just the last 24 hours/yesterday) • Yes • No • Don't know	Road-side Stand while IN Montana on THIS trip? (during ANY portion of
How much money did you spend at a Farmers	Market or Road-side Stand?
Where (what town) was the LOCATION for that	cost at a FARMERS MARKET or ROAD-SIDE STAND?
Did you take a GUIDED or OUTFITTED TRIP whi last 24 hours/yesterday) • Yes • No • Don't know	le IN Montana on THIS trip? (during ANY portion of your trip, not just the
If yes, How much did you spend on a GUIDE OF	OUTFITTER?
In what town did you hire a GUIDE or OUTFITT	ER?
INSTRUCTION: Did you spend money on any LIG portion of your trip, not just the last 24 hours/ • Yes • No • Don't know	CENSES, FEES, ADMISSIONS while IN Montana on THIS trip? (during ANY yesterday)?

How did you enter Montana?

Please describe your LICENSE, FEE, or ADMISSION
How much was that License, fee, or admissions?
In what TOWN did you spend money on a License, fee, or admission?
INSTRUCTION: Now I am going to ask you about your spending patterns IN MONTANA for Yesterday OR the Past 24 hours (Remember, this is based on whether they have spent 0-1 nights (PAST 24 hours) or 2+ nights (YESTERDAY) in Montana on this trip!) Number of nights they have already spent in Montana since most recently entering the state:
 What type of PAID ACCOMMODATION did you use last night? Hotel/Motel/Bed & Breakfast Rental home/cabin/condo (full property) Rented room/space in home Private Campground (i.e., KOA) Public Campground (Forest Service, State/National Park) None
(If Rental home or Rented room) How did you book that accommodation? Through AirBnB Through VRBO/HomeAway Through Online Travel Agent (e.g. Expedia) Direct Through Owner of Accommodation Other
How much did you spend on your ACCOMMODATION?
And where did you spend the night? (town name or closest town)
Yesterday or in the Past 24 hours, Did you spend money on GASOLINE? • Yes • No • Don't know
How much was it?
What town did you fill up? GASOLINE LOCATION
Did you fill up again? If so, how much was it?
And in what LOCATION? (GASOLINE town name)
Did you fill up another time in MT? If so, how much was it?
And in what LOCATION?

 art, crafts, foods, local brewery/distillery, etc.) Yes No Don't know
If yes, please describe:
How much were those Made in Montana products?
In what town (location) did you purchase those Made in Montana products?
Instruction: If they bought Made in MT products more than once/in more than one location/different types of Made in MT goods, please use the "additional" category at the bottom of the survey to record additional "made in MT" purchases.
INSTRUCTION: YESTERDAY or the PAST 24 HOURS
Did you spend money in a RESTAURANT or BAR? • Yes • No • Don't know
Restaurant, bar Amount Spent
In what town did you spend money in a Restaurant/bar- Location Spent
Restaurant, bar Amount Spent
Restaurant, bar Town Spent
Restaurant, bar Amount Spent
Restaurant, bar Town Spent
Did you spend money on GROCERIES and SNACKS Yesterday or in the past 24 hours? (excluding made in MT goods)? • Yes • No • Don't know
How much money did you spend on GROCERIES or SNACKS?
Where (what town) was the LOCATION for that cost for GROCERIES/SNACKS?
Groceries, snacks Amount spent
Groceries, snacks Town spent

Did you purchase any Made in Montana products yesterday/in the past 24 hours? (i.e., locally made

Did you buy an RETAIL GOODS? • Yes • No • Don't know					
Please DESCRIBE your RETAIL purchases					
How much did you spend on RETAIL GOODS?					
In what town did you buy RETAIL GOODS?					
Any other RETAIL GOODS? DESCRIBE					
Retail goods amount spent					
Retail goods Town where spent					
Retail goods, describe					
Retail goods amount spent					
Retail goods Town where spent					
INSTRUCTION: YESTERDAY or the PAST 24 HOURS					
Did you pay for any SERVICES? (i.e., haircut, medical expenses, carwash) • Yes • No • Don't know					
If YES, please DESCRIBE your SERVICE					
Services amount spent					
Services Town/Location where spent					
Yesterday or the last 24 hours, have you had to pay for any VEHICLE REPAIRS? • Yes • No • Don't know					
How much was that?					
Auto/RV repair TOWN					

INSTRUCTION: YESTERDAY or the PAST 24 HOURS...

NoDon't know	
If yes, what was the TRANSPORTATION FARE? F	Please describe it
How much was the TRANSPORTATION FARE? _	
And where was the TRANSPORTATION FARE? _	
Did you spend money on GAMBLING?	
How much did you spend on GAMBLING?	
In what TOWN did you spend money on GAMB	LING?
 INSTRUCTION: Are there any other expenditure Yes No Don't know 	es you may have had YESTERDAY or the PAST 24 HOURS?
Please describe your ADDITIONAL Expenditures	5
How much were your ADDITIONAL Expenditure	es?
And where did you spend ADDITIONAL money?)
Please describe ADDITIONAL	
Additional Amount Spent	
TOWN where ADDITIONAL money spent:	
Additional, please specify	
Additional Amount Spent	
TOWN where ADDITIONAL money spent:	
prize drawing for your choice of EITHER a \$1,00 can complete this survey and mail it back, or co (envelope). We can only improve your visit to N	enience, you will be entered into our annual grand 00 Visa gift card or airfare valuing up to \$1,000. You
Surveyor records the following: Survey ID Site Code Date	Surveyor Comments

INSTRUCTION: YESTERDAY or in the PAST 24 HOURS, did you pay for any TRANSPORTATION FARES?

• Yes

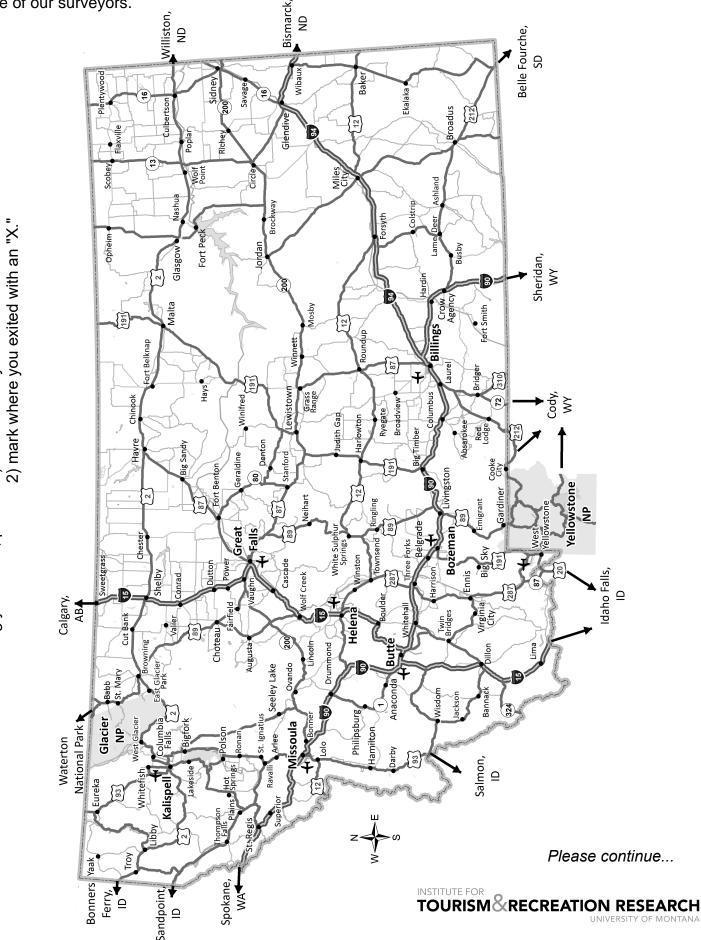
Appendix B

Nonresident Travel Survey: Instrument for follow-up data collection

Montana Nonresident Travel Survey

ID

Use the map below to trace the route you took during your recent visit in Montana when you spoke with one of our surveyors.



In addition to tracing your route, please: 1) mark where you entered with an "E" and 2) mark where you exited with an "X."

	th the route you just traced o ly referencing that trip in Moi	on the map as a reminder, please a ntana	inswer the following questions			
1)	What were the purposes for being	in Montana ON THIS TRIP? ("X" all that a	pply.)			
	1 Vacation/recreation/pleasure	3 Just passing through	5 Business/convention/meeting			
	2 Visit friends/relatives living in MT	4 Shopping	6 Other (medical, visit schools, etc.)			
2)	Based on your response(s) above	, what was your <u>main</u> purpose for being i	in Montana? ("X" only one.)			
	1 2	□ 3 □ 4	□ 5 □ 6			
3)	If you indicated vacation/recreatio	n/pleasure in #1, what attracted you/you	r group to Montana? ("X" all that apply.)			
4)	1 Open space/uncrowded areas 2 Mountains/forests 3 Rivers 4 Lakes 5 Special events 6 Northern Great Plains/Badlands 7 Native American history & culture Of the attractions you marked in # attracted you most to Montana.	8 Lewis & Clark history 9 Other Montana history & culture 10 Family/friends 11 Glacier National Park 12 Yellowstone National Park 13 A Montana State Park 14 Resort/guest ranch 3, write the number corresponding to the	15 Wildlife 16 Fishing 17 Hunting 18 Hiking 19 Camping 20 Skiing/snowboarding 21 Snowmobiling e one thing that			
5)	Where did you stay in Montana?	White the # of the leadering towns	Weste the # of the veces stick			
	Write in town/nearest town for each night: Write the # of the lodging type used from the list below: Write the # of the reservation method from the list below:					
	Montana Town	Lodging Type #	Reservation Method #I			
N	light 1	Type # night 1	Method # night 1			
N	light 2	Type # night 2	Method # night 2			
N	light 3	Type # night 3	Method # night 3			
N	light 4	Type # night 4	Method # night 4			
N	light 5	Type # night 5	Method # night 5			
N	light 6	Type # night 6	Method # night 6			
N	light 7	Type # night 7	Method # night 7			
N	light 8	Type # night 8	Method # night 8			
2 3 4 5	Lodging Types Hotel/motel Bed & breakfast Public land camping (e.g., State/ National Park, Forest Service, Bureau of Land Management) Private campground (KOA, etc.) Home/condo/cabin of friend/relative My second home/condo/cabin	7 Rented entire cabin/home 8 Rented room in home 9 Resort/condominium 10 Guest ranch 11 Vehicle in parking area 12 Other (please describe)	Reservation Methods List 1 Walked-in 2 Contacted accommodation directly (e.g., called hotel, used business website) 3 Booked using online travel agent site (e.g., Expedia, trivago) 4 Booked through Airbnb 5 Booked through VRBO/HomeAway 6 N/A (No cost) 7 Other (please describe)			

6)	6) Before this trip, what sources were used to gather ideas or information about Montana? ("X" all that apply.)						
	Online Sources	Print Sources		Additional Information Sources			
	1 Official MT website (VisitMT.com)	12 Official MT G	Guidebook magazine	19 Called a MT visitor info. line/center			
	2 Search engine (e.g., Google)	13 Regional MT	travel guide(s)	20 Info. from friend/relative living in MT			
	3 Mobile apps	14 MT commun	ity travel guide(s)	21 Info. from previous visitor(s) to MT			
	4 Online video (e.g., YouTube)	15 Magazine/ne	wspaper article	22 Info. from private business (e.g., resort/motel/attraction)			
	5 Consumer online reviews (e.g., TripAdvisor)	16 National Part brochure/boo		23 Info. from special events			
	6 Professional online travel reviews	17 State Park b	rochure/website	24 Automobile club (e.g., AAA)			
	7 Social media		e.g., Frommer's, Lonely	25 Montana advertising campaign			
	8 Magazine/newspaper article online	└─ <i>l</i> Planet)		26 Other			
	9 "Made in Montana" website			Used No Sources			
	10 Online travel agent (e.g. Traveloc	ity)		27 Used no sources			
	11 Other travel websites						
7)	Of the sources you marked in #6, w	rite the number corre	sponding to the most (useful information source.			
-,	,		- p				
8)	While traveling in Montana on this t	<u>rip</u> , what information	sources were used? ('	'X" all that apply.)			
	Online Sources	Print Sources		Additional Information Sources			
	1 Official MT website (VisitMT.com)	8 Official MT Gu	uidebook magazine	15 Visitor information center staff			
	2 Search engine (e.g., Google)	9 Regional MT t	ravel guide(s)	16 Info. from friend/relative living in MT			
	3 Map applications (e.g., Google Ma	os) 🔲 10 MT commun	ity travel guide(s)	17 Info. from private business (e.g., resort/motel/attraction)			
	4 Other mobile apps	11 National Park brochure/book/website		18 Official highway information signs			
	5 Consumer online reviews (e.g., TripAdvisor)	12 State Park b	rochure/website	19 Billboards			
	6 Social media	13 Guidebook (d Planet)	e.g., Frommer's, Lonely	20 Other			
	7 "Made in Montana" website	14 Brochure info	ormation rack	Used No Sources			
			Γ	21 Used no sources			
			L				
9) 10)	 9) Of the information sources you marked in #8, write the number corresponding to the most useful source while in Montana. 10) While on this trip, what activities did you/your travel group do in Montana? ("X" all that apply.) 						
	Car/RV camping	Bicycling	Sporting event	Attend festivals/events			
	Day hiking	Mountain biking	Rockhounding	Attend performing arts			
	Backpacking I	Road/tour bicycling	Snowmobiling	View art exhibits			
	Horseback riding	Motorcycle touring	Skiing/snowboard	ling Uisit farmers market			
	Nature photography	DHV/ATV	Cross country ski	ing Uisit Indian reservations			
	Hunting I	Motorboating	Snowshoeing	Visit Lewis & Clark sites			
	Birding	Canoeing/kayaking	Scenic driving	Visit other historical sites			
	Wildlife watching	Fishing/fly fishing	Recreational shop	oping Uisit museums			
	Geocaching I	River rafting/floating	Dinosaur attractio	ns Visit local brewery			
	Rock climbing	Golfing	Attend a wedding	Visit local distillery			
11)	Did you/anyone in your group hire a	n outfitter or guide ir	Montana <u>during this t</u>	rip? Yes No			

12) While on this trip, what sites did you/yo	our tra	avel group visit? ("X" all tha	it apply.)				
Big Hole National Battlefield Bighorn Canyon Nat'l Recreation Area Bob Marshall Wilderness Complex C.M. Russell Museum, Great Falls C.M. Russell National Wildlife Refuge Clark Canyon Reservoir Flathead Lake State Parks Fort Peck Lake Ft. Peck Interpretive Center & Museum 13) Did you fly on a commercial air carrier 14) Do you own a second home/cabin/cond 15) Do you plan on visiting Montana again	G G G G G G G G G G G G G G G G G G G	pperty in Montana?	r, West	Montana Hist Museum of th National Biso Other Montar Pompey's Pill Rocky Mount Virginia City/I	na State Parks lar ain Elk Foundat	Helena eman	
16) Please rate your overall satisfaction wi	th the	following aspects of Mont			v for each stat	amant)	
16) Please rate your overall satisfaction wi	Very	Somewhat	Somewhat			,	
Highway rest areas	iissatisi	fied Dissatisfied dissatisfied	satisfied	Satisfied	Very satisfied	N/A	
Availability of recycling bins							
Availability of travel information						\dashv	
Amount of historical roadside information							
Access to public lands							
Amount of open space							
Wildlife viewing opportunities							
Stewardship of the land				Ш			
A feeling of being welcomed							
Main streets reflecting local culture/heritage							
Restaurants with local products			<u> <u> </u></u>	<u> </u>	<u> <u> </u></u>	<u>Ш</u>	
Availability of local arts and crafts							
17) What age ranges (including yourself) were part of your travel group? ("X" all that apply.) 0-5 years							