

AAE 04004

September 2004

Characteristics and Expenditures of Participants in the Potholes and Prairie Birding Festival

**Nancy M. Hodur, F. Larry Leistritz,
and Kara Wolfe**

**Department of Agribusiness and Applied Economics
Agricultural Experiment Station
North Dakota State University
Fargo, ND 58105-5636**

Acknowledgments

Our appreciation and thanks are extended to the participants of the Potholes and Prairie Birding Festival for taking the time to complete the questionnaire. Without their input, this study would not have been possible. Also a special thanks to Birding Drives Dakota and its members for their input, cooperation, and assistance in this research effort.

Thanks to Shelly Swandal for questionnaire preparation, Carol Jensen for document preparation, and to our colleagues who reviewed the manuscript. Special thanks to Dean Bangsund for his assistance and input in questionnaire design.

Financial support was provided by the United States Department of Agriculture as part of the Regional Center for Rural Development in North Dakota and by the North Dakota Agricultural Experiment Station. Financial support also was provided by the New Economy Initiative (NEI), a program of the North Dakota Freedom of Enterprise Foundation.

The authors assume responsibility for any errors of omission, logic, or otherwise. Any opinions, findings, conclusions, or recommendations expressed in the publication are those of the authors and do not necessarily reflect the view of the United States Department of Agriculture or the New Economy Initiative.

We would be happy to provide a single copy of this publication free of charge. You can address your inquiry to: Carol Jensen, Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND, 58105-5636, Ph. 701-231-7441, Fax 701-231-7400, e-mail cjensen@ndsuext.nodak.edu . This publication also is available electronically at: <http://agecon.lib.umn.edu/>.

NDSU is an equal opportunity institution.

Abstract

North Dakotans are well aware of the abundance of the state's natural resources. Fishing and hunting are part of the culture of North Dakota, and more recently nature-based tourism has grown in popularity. National surveys illustrate growth trends in nature tourism, soft adventure, and heritage and historical tours. Several studies identify birders as a substantial source of economic activity in other parts of the country; these estimates, however, may not accurately reflect conditions in North Dakota. While anecdotal evidence suggests that nature-based tourism has economic development potential in North Dakota, little research exists describing the characteristics or expenditures of visitors participating in nature-based tourism activities in North Dakota. Accordingly, the objective of this research was to identify the basic characteristics of participants attending the 2004 Potholes and Prairie Birding Festival, estimate average expenditures per participant, and estimate the direct and secondary economic impacts of the Birding Festival on the local economy, in order to quantify the economic development potential of birding in rural North Dakota.

Key Words: birding, nature tourism, economic development, wildlife viewing

Characteristics and Expenditures of Participants in the Potholes and Prairie Birding Festival

Nancy M. Hodur, F. Larry Leistritz, and Kara Wolfe*

North Dakotans are well aware of the abundance of the state's natural resources. Fishing and hunting are part of the culture of North Dakota, and the state has long been a popular fishing and hunting destination. More recently nature-based tourism has grown in popularity. National surveys, such as the U.S. Fish and Wildlife Service 2001 National Survey of Fishing, Hunting, and Wildlife Related Recreation (U.S. Fish and Wildlife Service 2002), illustrate growth trends in nature tourism, soft adventure, and heritage and historical tours as an increasingly urban population looks for a back-to-nature experience (Wight 1996, Partridge and MacKay 1998, LaRoache 2003). The economic development potential of nature tourism is well-recognized in other parts of the country with many demonstrated successes. Several studies identify birders¹ as a substantial source of economic activity in other parts of the country. Consider the following:

- ◆ Kim et al. (1998) reported that a birding festival in Rockport, Texas, attracted 4,500 birders whose average expenditure was \$248, for a total of \$1.3 million in new spending associated with the four-day event.
- ◆ Cape May, New Jersey: More than 100,000 birders visit the area annually, providing a cumulative impact of nearly \$10 million (Kerlinger and Wiedner 1991).
- ◆ Grand Island, Nebraska: At least 8,000 avitourists annually visit the rural community on the Platte River; they spend more than \$15 million and provide to the community a cumulative "roll-over" benefit of nearly \$40 million (Lingle 1991).

These reports present a wide range of estimates from diverse locations. However, considering birding and nature-based tourism are relatively new phenomena in North Dakota, these estimates may not accurately reflect conditions in North Dakota.

*Hodur is Research Associate and Leistritz is Professor in the Department of Agribusiness and Applied Economics, and Wolfe is Assistant Professor in the Department of Apparel, Design, Facility, and Hospitality Management, at North Dakota State University, Fargo.

¹The scope of "birding" for this report was confined to those individuals that travel away from their home for the purpose of bird watching and wildlife viewing. Other definitions of "birding" are much broader and include activities such as backyard birdwatching and feeding.

Recently, local and state business and community leaders have identified nature-based tourism as a basic sector that may have substantial economic development potential, especially in rural areas. With 62 National Wildlife Refuges, more than any other state, and more than 3 million acres of cropland enrolled in the Conservation Reserve Program, birding may have considerable economic development potential. Kidder County has been identified by *Wildbird* magazine as one of the top 10 birding hot spots in North America (Konrad 1996), and a recent article in *Bird Watcher's Digest* describes central North Dakota as a birders' paradise (Zickefoose 2004).

One group trying to capture the economic development potential of North Dakota's natural resources is Birding Drives Dakota, a non-profit corporation formed by the communities of Carrington, Jamestown, and Steele to promote the Coteau region of central North Dakota as a birding destination. Birding Drives Dakota published a brochure describing area birding opportunities, habitat, topography, communities, and mapping several self-guided drives with tips for sighting birds unique to North Dakota, such as the Baird's Sparrow. (Central North Dakota is one of the very few places in the United States where the Baird's Sparrow can be sighted.) In addition to publishing a brochure, the group sponsors an annual birding festival called the Potholes and Prairie Birding Festival. The first festival, held in 2003, had over 300 participants. The event also received some very welcome and complimentary publicity when *Bird Watcher's Digest* published an article entitled "North Dakota State of Mind" that showcased the Potholes and Prairie Birding Festival and North Dakota as a premier birding destination (Zickefoose 2004).

Even though economic development and diversification have been long-standing priorities for the state's policymakers, the concept of promoting North Dakota as a birding destination is relatively new. However, decision makers, entrepreneurs, and economic development professionals have begun to recognize the economic development potential of nature-based tourism. The New Economy Initiative (a public-private partnership coordinated by the Greater North Dakota Association) has identified nature-based tourism as a priority area for future development, and the North Dakota Department of Commerce has identified tourism as an area with high potential in its Strategic Plan.

Objectives

While anecdotal evidence suggests that nature-based tourism has economic development potential in North Dakota, with the exception of a periodic assessment of hunting and angling activities (Bangsund and Leistritz 2003) and an assessment of the characteristics of outdoor recreation-related businesses (Hodur et al. 2004), little research exists describing the characteristics or expenditures of visitors participating in nature-based tourism activities in North Dakota. Accordingly, the objective of this research was to identify the basic characteristics of participants attending the 2004 Potholes and Prairie Birding Festival (the Festival), estimate average expenditures per participant, and estimate the direct and secondary economic impacts of the Birding Festival on the local economy to quantify the economic development potential of birding and the annual Festival.

Study Methods

Economic Impact Assessment

An economic impact assessment can evaluate the relative potential as well as the relative success (or failure) of a given economic development strategy. An *economic impact* evaluation identifies and quantifies that portion of economic activity that represents “new wealth” or “new money” to a specific area as a result of an event or activity. “New wealth” is generated by the sale of materials, goods, or services to entities (either a business or an individual) outside of a defined region of interest (Leistritz 1998). In the case of a birding festival, expenditures made by participants attending the festival that would not have occurred in the absence of the festival would be examples of new wealth. For example, expenditures for hotel rooms, meals, transportation expenses, and other purchases in conjunction with an event such as the Potholes and Prairie Birding Festival or while visiting the area for the purpose of birding, would represent “new wealth” (also often referred to as sales for final demand or as basic income).

To avoid overstating the economic impact of an event or activity, participants’ motivation for attending an event is assessed. The role of the event in motivating a visit to the area determines what portion of total expenditures are “new money” and included in the economic impact of the event or activity. By making a determination of a participant’s motivation for attending an event, the direct economic impact of the event (i.e., the net increase in regional expenditures directly related to an event or activity) can be differentiated from the total expenditures of all event visitors and participants (Tyrell and Johnston 2001). For example, in the absence of the Festival, local participants may have participated in some other activity in the area, spending an equal amount of money. Accordingly, those expenditures would not be considered “new money” because the same amount of money would be spent in the area; however, in conjunction with an alternate activity. Alternately, expenditures by participants in conjunction with a particular event or activity prompted by an individual’s motivation to participate in a specific event represent “new money” and are included in the estimate of the economic impact of the event or activity. For example, expenditures made by non-local residents whose motivation for visiting the area was prompted by the Festival would constitute a direct economic impact, or “new money.”

Respondents’ motivation for attending the Potholes and Prairie Birding Festival was assessed using two separate questions: 1) was the Birding Festival their (Festival participants) primary motivation for visiting Jamestown, and 2) would they (Festival participants) have visited Jamestown if not for the Birding Festival. Non-Jamestown residents that indicated that the Birding Festival was *not* the primary reason for visiting Jamestown were excluded from the estimate of the economic impact of the event as were expenditures made by local residents that indicated they would have visited Jamestown even in the absence of the Festival.

Data Collection

A written questionnaire (Appendix A) elicited information from participants on the third day of the four-day event. Participants were asked about expenditures associated with attending the Festival such as outlays for lodging, food and beverage, and retail purchases and their motivation for visiting Jamestown. The questionnaire also requested basic demographic information, and inquired about the participant’s length of stay in Jamestown, as well as their

level of satisfaction with various aspects of the Festival and their perceptions regarding the Jamestown area.

Intercept surveys were distributed after lunch and collected later in the day. One hundred and four individuals registered for the event. Fifty-five questionnaires representing the spending for 68 participants, for an effective response rate of 65 percent, were collected. (Because the questionnaire quantified whether spending was for an individual only or the respondent and the respondent's family, spending data was often reflective of expenditures for more than just the individual that completed the questionnaire.)

Local Impact Area

The local impact area was defined as the Jamestown trade area and quantified by two separate questions, one asking if the respondent lives in the Jamestown area and another that requested the respondent's zip code. Other North Dakota cities such as Bismarck, Devils Lake, or Fargo were not considered part of the local area.

Estimating Direct and Secondary Impacts

Festival participants' expenditures were estimated using data from the intercept survey. Birding Drives Dakota personnel provided revenue and expenditure data associated with the Festival. Average expenditures of Festival participants were multiplied by total attendance figures to estimate the direct economic impact of the event. Operational expenditures and Festival participant expenditures were allocated to the appropriate economic sectors of the North Dakota Input-Output Model where interdependence coefficients were applied to estimate the secondary and total economic impacts of the Potholes and Prairie Birding Festival. The model has been used extensively in estimating the impacts of various events, projects, and facilities through the state. The model was developed from primary data from North Dakota and is closed with respect to households [that is, households (personal income) are included within the model] (Coon and Leistritz 2002, Leistritz et al. 1990).

Results

Respondent Characteristics

Potholes and Prairie Birding Festival participants were largely non-Jamestown area residents (75.9 percent) with many participants from outside North Dakota (59 percent) (Table 1). The number of male and female participants was roughly equal, and most of the participants were either married or living with a domestic partner or significant other (85.2 percent, data not shown). However, while many participants attended the Festival with their spouse or partner, some apparently traveled to the event as a single or were accompanied by a friend. Participants as a group were highly educated; 51 percent had at least some graduate school and 73 percent had a college degree. Income levels were reflective of the high levels of education. Respondents most frequently indicated household incomes of between \$50,000 and \$74,999 (34 percent), but the next most frequently reported income range was \$100,000 or more (28 percent) (Table 1).

Table 1. Respondent Characteristics, Potholes and Prairie Birding Festival, 2003

Item	-percent-
Residency	
Jamestown area	24.1
Non-Jamestown residents	75.9
(n)	(54)
ND residents	40.7
Out-of-state residents	59.3
(n)	(54)
Gender	
Male	49.2
Female	50.1
(n)	(54)
Age	
39 years or less	12.9
40 to 49 years	22.2
50 to 59 years	27.8
60 to 69 years	24.1
70 years or more	12.9
Average age	55 years
(n)	(54)
Education	
Grade school	1.9
High school	13.2
Vocational/technical or some college	11.3
College Degree	22.6
Some graduate school or graduate degree	50.9
(n)	(53)
Income	
less than \$25,999	2.1
\$25,000 to \$49,999	21.3
\$50,000 to \$74,999	34.0
\$75,000 to \$99,999	14.9
\$100,000 to \$124,999	8.5
\$125,000 or more	19.2
(n)	(47)

One-third of the respondents described themselves as ‘moderate’ birding enthusiasts with nearly the same number of respondents that described themselves as ‘enthusiast’ or ‘avid enthusiast’ of birding, 30 and 28 percent, respectively. Only 10 percent of respondents described themselves as ‘casual’ birders (Figure 1). The survey instrument did not quantitatively define for respondents specific criteria as to what constituted an ‘avid birder’ versus a ‘casual birder.’

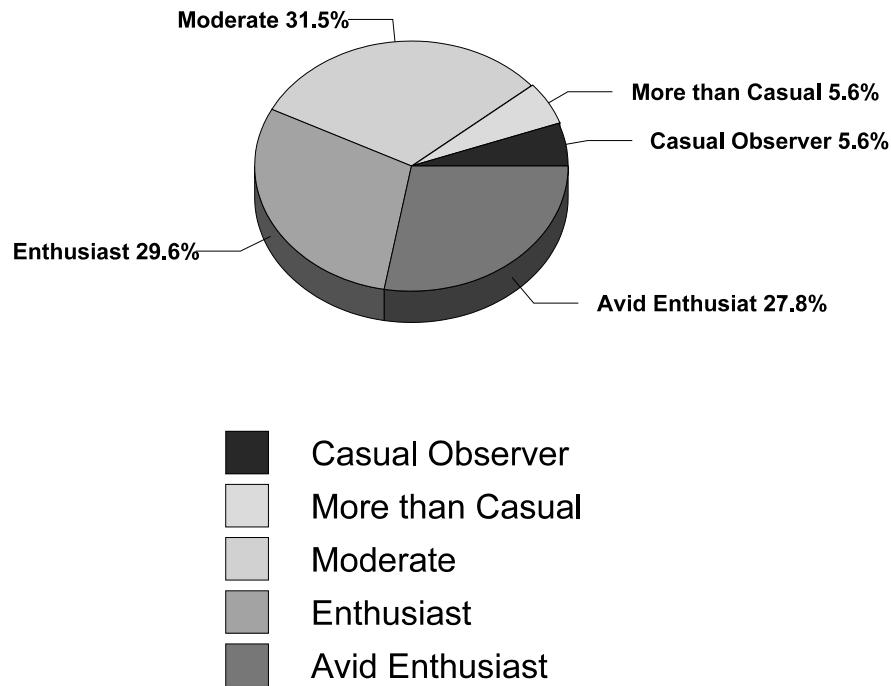


Figure 1. Respondents’ Level of Interest in Birding, Potholes and Prairie Birding Festival, 2004 (N=54)

Respondents on average attended 3.2 events per year; however, respondents most frequently indicated they attended 1 or 2 birding events per year (Table 2). A few respondents that attended many events per year distorted the average. For most respondents, the decision to attend the Potholes and Prairie Birding Festival was made a month or more before the event (77 percent); 40 percent made the decision to attend 1 to 3 months prior to the event and 23 percent decided to attend 3 to 6 months prior to the event (Table 2). The timing of the decision to attend varied depending on residency. Only 22 percent of non-Jamestown residents made the decision to attend the Festival a month or less from the Festival date compared to 36 percent of Jamestown area residents (Table 2). Non-Jamestown residents most frequently made the decision to attend the Festival 1 to 3 months prior to the event (48 percent) while Jamestown

residents most frequently made the decision to attend the Festival more than 6 months prior to the Festival (54 percent). This would suggest residents' plans to attend were made either well in advance or just prior to the event. Non-residents more consistently made their plans well in advance of the Festival (Table 2) with 80 percent that decided to attend one month or more in advance.

Table 2. Participant Characteristics Regarding Decision to Attend Festival and Attendance at Past Birding Events, Potholes and Prairie Birding Festival, 2004

Item	All Respondents	Jamestown Area Residents	Non-Jamestown Residents
Number of weeks prior to event decision to attend was made			
	-----percent-----		
Two weeks or less	11.3	18.2	9.5
3 to 4 weeks	11.3	18.2	9.5
5 to 12 weeks (1 to 3 months)	39.6	9.1	47.6
13 to 24 weeks (3.25 to 6 months)	22.6	27.3	21.4
More than 24 weeks (6 months)	15.1	27.3	11.9
(n)	(53)	(11)	(42)
	-----number-----		
Average number of weeks	17.0	22.0	15.0
Median number of weeks	12.0	16.0	12.0
(n)	(53)	(11)	(42)
Number of birding events attended per year			
	-----percent-----		
1 or 2	66.7	100.0	60.7
3 or 4	21.2	0.0	25.0
5 or more	12.1	0.0	14.3
Average number of events attended per year	3.2	1.4	3.6
Median number of events per year	2.0	2.0	1.0
(n)	(33)	(5)	(28)

The relationship between respondents' level of interest in birding and the number of birding festivals attended in the last year was evident. Among those who described themselves as having a moderate level of interest in birding, 65 percent attended two or more events per year. Of those who describe themselves as avid enthusiasts, 91 percent attended two or more events per year, of which 45 percent attended 4 or more events per year (data not shown).

Festival participants learned of the event from a variety of sources. 'Bird Watcher's Digest or other birding magazines' were cited most frequently (39 percent) as the source of information for the Potholes and Prairie Birding Festival, followed by 'local media' (35 percent), and 'Birding Drives Dakota brochure' (20 percent) (Table 3). Local residents most frequently cited 'local media' as the source of information for the Festival (83 percent), while non-residents most frequently heard about the Festival from 'Bird Watcher's Digest or other birding magazines' (39 percent). None of the participants cited 'state vacation guide' or 'local hotel, restaurant, or store employee' as their source of information for the Festival (Table 3).

Table 3. How Attendees Learned of the Event, Potholes and Prairie Birding Festival, 2004

Item	All Respondents	Local Residents	Non- residents
	-----percent-----		
<i>Bird Watcher's Digest</i> or other birding magazines	38.9	16.7	45.2
Web search, Birding Drives Dakota website, or other website	16.7	16.7	16.7
Birding Drives Dakota brochure	20.4	16.7	21.4
State vacation guide	0.0	0.0	0.0
Local media	35.2	83.3	21.4
Local hotel, restaurant, or store employee	0.0	0.0	0.0
Friend or relative	16.7	25.0	14.3
Other ¹	16.7	8.3	19.1
(n)	(54)	(12)	(42)

¹Other: Invited speaker, American Birding Association list of Festivals, *Birders' World*, local birding club, notification from Birding Drives Dakota, e-mail.

Participant Expenditures

Potholes and Prairie Birding Festival participants spent on average \$235 during the course of the 4-day event on food, lodging, local transportation, transportation to and from the Festival (non-local transportation), personal items, and other entertainment (Table 4). Registration fees were not included in the estimate of participants' average expenditures. Average spending figures for local attendees and non-local attendees were very similar; however, the potential for sampling error for local residents was high due to the limited number of observations. However, because a majority of attendees were non-local residents, local resident expenditures had little effect on total spending figures. Because 'transportation to and from the event' consisted primarily of airfare and car rental, it appeared that this expenditure category would not contribute to the Jamestown area economy and was accordingly excluded from the estimate of local impacts. Expenditures in the Jamestown area (local area) were estimated by subtracting non-local transportation expenses from total expenditures reported by respondents and was estimated to be \$162 per person. Average travel costs to and from the Festival for all respondents averaged \$73 per person; however, non-resident travel expenditures to and from the event ranged into the hundreds of dollars (data not shown). Total expenditures (including non-local transportation costs) for all participants were estimated to be \$24,000. Local area expenditures totaled nearly \$17,000. While non-local transportation expenditures were not included in the estimate of *local* economic impacts, expenditures for rental cars, gas, and other expenditures made in the state do represent economic impacts for the state overall.

Table 4. Participant Expenditures, Total Expenditures, and Direct Economic Impacts, by Residency, Potholes and Prairies Birding Festival, 2004

Expenditure type	Average Expenditures			Total Expenditures			Direct Economic Impact		
	Per Participant			Local	Non-local	Total	Local	Non-local	Total
	Local Attendees	Non-local attendees	All attendees	Attendee	attendees		Attendee	attendees	
	-----dollars-----								
Food and Beverage (restaurants, bars, etc.)	45.00	33.46	34.13	1,125	2,678	3,549	322	2,614	2,936
Lodging (hotels, motels, etc.)	115.00	82.12	84.08	2,875	5,943	8,739	822	5,802	6,624
Personal items, retail purchases, souvenirs, etc.)	12.50	17.55	17.26	313	1,371	1,795	89	1,339	1,428
Local transportation (gas, taxi, bus, rental car)	12.50	23.67	23.01	313	1,767	2,393	89	1,725	1,814
Transportation to and from the Festival (airfare, gas)	5.00	77.51	73.3	125	6,619	7,624	36	6,462	6,497
Other entertainment (charitable gaming, local attractions)	6.25	3.31	3.49	156	202	363	45	197	242
Other	0.00	0.00	0.00	0	0	0	0	0	0
Total expenditures	196.25	237.81	235.22	4,906	18,771	24,463	1,403	18,325	19,728
Total local expenditures ¹	191.25	160.11	161.91	4,781	11,962	16,839	1,367	11,677	13,045
Number of represented attendees	(4)	(65)	(69)	(25)	(79)	(104)	--	--	--

¹Total local expenditures equal total expenditures less transportation expenditures to and from the Festival.

To determine the percentage of total expenditures that represents “new money” or direct economic impacts, participants’ reasons for visiting the area were examined and applied to total expenditure figures. Overall, 94 percent of respondents indicated the Festival was their primary reason for visiting Jamestown (Table 5). By residency, 98 percent of non-local residents and 75 percent of local area residents indicated the Festival was their primary reason for visiting Jamestown. Respondents were also asked if they would have visited Jamestown if not for the Potholes and Prairie Birding Festival. Overall, 77 percent of respondents said they would not have visited Jamestown if not for the Festival; 85 percent of non-residents and 29 percent of local residents. Accordingly, 98 percent of expenditures by non-local residents and 29 percent of local residents’ expenditures were considered to represent “new money” or direct economic impacts. Direct economic impacts for the state were estimated to be nearly \$20,000 (data not shown), and direct economic impacts for the local Jamestown area were estimated to be \$13,000 (Table 4).

Because the Festival was a multi-day event, most non-resident participants stayed overnight in Jamestown for multiple nights. Eighty-eight percent of non-local area residents stayed overnight an average of 3 nights (Table 5).

Table 5. Respondent Characteristics, Potholes and Prairie Birding Festival, 2004

Item	-----percent-----
First visit to Jamestown¹	45.0
(n)	(40)
Birding Festival was the primary reason for visiting Jamestown	
Local area resident	75.0
Non-local resident	98.0
All participants	94.0
(n)	(50)
Would not have visited Jamestown if not for the Festival	
Non-local residents	85.7
Local area resident	28.6
All participants	77.5
(n)	(49)
Non-local area residents that stayed overnight in Jamestown	88.1
(n)	(48)
Number of nights spent in Jamestown, Non-local residents	-----number-----
Mean number of nights	3.1
Median number of nights	3.0
(n)	(48)

¹All first-time visitors to Jamestown were from out-of-state.

Festival operating expenses were also part of the economic impact of the event. Birding Drives Dakota had nearly \$13,000 worth of expenditures for guide fees, bus rental, advertising, and other Festival expenses that were paid with revenues from registration and grants and sponsorships. Only operating expenses that remained in the local area were included in the estimate of local impacts; that is, expenditures for speaker's fees, airfare, etc., were excluded. Participant expenditures and Birding Drives Dakota operating expenses were allocated to the appropriate sectors of the North Dakota Input-Output Model to estimate the total direct and secondary economic impacts. Direct economic impacts were concentrated in the *retail trade* and *business and personal services* sectors with minor amounts in the *households* sector. Secondary impacts were similarly concentrated with total direct and secondary economic impacts estimated to be \$64,000 (data not shown).

Perceptions Regarding Jamestown and the Surrounding Area

Overall, respondents' impressions of Jamestown and the surrounding area were very positive. Not a single respondent indicated they were 'disappointed' with their visit to Jamestown while 66 percent indicated their visit was 'very pleasant,' 30 percent indicated their visit was 'pleasant,' and only 4 percent responded 'neither' (data not shown). Respondents expressed their level of agreement with a variety of statements and issues ranging from the area's scenic attractions to the adequacy of the city's lodging and dining options on a 1 to 5 scale, where 1 is strongly disagree and 5 is strongly agree. Ninety-two percent of respondents agreed with the statement that Jamestown and the surrounding area has beautiful attractions (average score of 4.5), and 97 percent of the respondents agreed that area residents and businesses were friendly (average score 4.3) (Table 6). Even on issues where lower scores were recorded, the scores were still very good. For example, the lowest average score, 3.8, was recorded on a statement asking respondents to rate the adequacy of dining options. (The highest average score was 4.5.) While 3.8 may be the lowest score recorded, the score still represents a positive impression. Average scores and frequencies on respondents' perceptions about Jamestown and the surrounding area are detailed in Table 6.

While participants generally rated Jamestown, the Festival, and their overall experience positively, they indicated they were not likely to participate in other activities in conjunction with the Potholes and Prairie Birding Festival. Respondents were asked to indicate using a 1 to 5 scale, where 1 is very unlikely and 5 is very likely, how inclined they would be to participate in a variety of activities if they were available. Generally, respondents did not demonstrate an inclination to participate in other activities in conjunction with birding activities. 'Regional history,' 'hiking or biking,' and 'local festivals, county fairs,' were the only activities that 50 percent or more of respondents indicated they would be likely to participate (Table 7). Further, roughly half of the respondents indicated they were unlikely to participate in 'camping,' 'horseback or wagon rides,' 'working farm and ranch activities,' or 'fishing, water sports, boating.' Participants were especially consistent regarding golf. Seventy-nine percent of respondents indicated it would be 'very unlikely' that they participate in golf in conjunction with a birding festival (Table 7).

Table 6. Respondents' Perceptions on Various Statements about Jamestown and the Surrounding Area, Potholes and Prairie Birding Festival, 2004

Item	Average Score ¹	Strongly Agree	Somewhat Agree	Neither Disagree nor Agree	Disagree	Strongly Disagree	Do Not Know /Not Applicable
Jamestown and the surrounding area has beautiful attractions.	4.50	59.6	32.7	5.8	1.9	0.0	0.0
Jamestown and the surrounding area are a good value for my money.	4.36	50.0	40.0	6.0	4.0	0.0	0.0
Lodging accommodations are adequate.	4.33	45.6	43.4	8.7	2.2	0.0	0.0
Area residents and businesses are friendly.	4.32	75.0	22.5	2.5	0.0	0.0	0.0
Jamestown and the surrounding area is a unique vacation destination.	4.18	29.4	60.8	7.8	1.9	0.0	0.0
There are many outdoor recreational opportunities in the area.	4.16	43.2	36.4	15.9	2.3	2.3	0.0
Jamestown and the surrounding area is a good weekend vacation destination.	3.98	30.0	46.0	16.0	8.0	0.0	0.0
The area has several historical attractions.	3.96	33.3	41.7	14.6	8.3	2.1	0.0
Jamestown offers a variety of attractions.	3.94	26.5	51.0	14.3	6.1	2.0	0.0
Jamestown is a good place to take children for activities and attractions.	3.90	40.5	32.4	8.1	13.5	5.4	0.0
Dining options are adequate	3.77	27.1	45.8	8.3	14.6	4.2	0.0
(n) ²	(49)			(49)			

¹Average score based on a 1 to 5 scale where 1 is strongly disagree and 5 is strongly agree.

²Average number of observations per item.

Table 7. Respondents' Likelihood of Participating in Other Activities in Conjunction with the Festival if Available, Potholes and Prairie Birding Festival, 2004

Item	Average Score ¹	Very Unlikely	Unlikely	Neither Likely or Unlikely	Somewhat Likely	Very Likely
How likely would you be to participate in the following activities?						
Regional history, such as Lewis and Clark events and attractions	3.75	7.6	11.3	7.5	45.3	28.3
Other ²	3.71	14.3	0.0	28.6	14.3	42.9
Hiking or biking	3.26	26.4	9.4	3.8	332.1	28.3
Local festivals, county fairs, etc.	3.23	18.9	9.4	18.9	35.8	17.0
Native American heritage tours and events such as a Pow Wow	3.19	15.1	17.0	20.7	28.3	18.9
Fossil Digs	3.04	19.6	21.6	17.6	17.6	23.5
Camping	2.70	32.1	15.1	11.3	34.0	7.6
Horseback or wagon rides	2.61	38.5	13.5	7.7	28.8	11.5
Working farm and ranch activities	2.38	35.8	20.7	22.6	11.3	9.4
Fishing, water sports, boating, etc.	2.21	47.2	17.0	11.3	17.0	7.6
Golf	1.45	79.2	5.7	9.4	2.0	3.8
(n) ³	(53)			(53)		
How likely would you be to recommend the Festival to someone else?						
(n)	4.54	0.0	0.0	0.0	46.3	53.7
	(54)			(54)		
How likely would you be to attend the Festival in the next two years?						
(n)	3.78	7.4	9.3	18.5	27.8	37.0
	(54)			(54)		

¹Average score based on a scale of 1 to 5 where 1 is very unlikely and 5 is very likely.

²Other: Local food festival, wildflowers and butterflies, no time for other activities, birding to other parts of the state for other species, too tired for other activities.

³Average number of responses per item except for 'other.' There were only 5 observations for 'other.'

Key Findings, Conclusions, and Implications

Nature tourism has increasingly been recognized as an economic development opportunity for rural areas in North Dakota. The state's unique natural resources and wildlife populations, showcased by its 62 National Wildlife Refuges, appear to offer a basis for attracting visitors from outside North Dakota, as well as from the state's and region's larger cities. Several rural areas are attempting to use birdwatching and wildlife viewing as a visitor attraction, designating and mapping birding drives, and organizing birding festivals. As rural communities seek to develop nature tourism, questions regarding the attributes and interests of the nature tourist arise. This study sought to address these questions through a survey of participants at a birding Festival held in the Jamestown area in June 2004.

Key Findings

The Festival participants were predominately from outside the Jamestown area, and most of these visitors were from out-of-state. The participants' average age was 55, and more than 70 percent were between age 40 and 70. As has been reported in other studies of birders and nature tourists (Schneider and Salk 2002, Leones et al. 1998, Wight 1996), the Festival participants were highly educated (73 percent had college degrees) with relatively high income levels. The visitors (from outside the Jamestown area) generally attend one or two birding events per year, but almost 40 percent indicated that they attend three or more. Most made their decision to attend the Birding Drives Dakota Festival at least 13 weeks prior to the event, and they generally learned about the event through birding magazines (e.g., *Bird Watcher's Digest*), brochures prepared by the event organizers, or a web search.

The visitors spent an average of three nights in the Jamestown area, with average local expenditures of \$160 per person, approximately \$54 per day. Lodging, meals, and transportation costs (primarily gasoline) were the major local expenditures. Participant spending levels were similar to spending habits of resident hunting and fishing participants [Bangsund and Leistritz (2003) report average spending levels of \$45 to \$56 per day for resident fishing, upland game hunting, and waterfowl hunting]. The visitors enjoyed the Jamestown area and gave favorable ratings to all aspects of the community. Almost all would recommend the birding Festival to a friend, and almost two-thirds indicated they were likely to attend the Festival again within the next two years. When asked about other activities in which they might participate if available, the participants expressed moderate interest in regional history events/attractions (3.75 on a 5-point scale), hiking or biking (3.26), other local festivals (e.g., county fair) (3.23), and Native American heritage activities/events (3.19); whereas, they had very limited interest in golf (1.45) or fishing/boating (2.21). In summary, the visiting birders were characterized by a moderate to high level of interest in and commitment to birding, were quite satisfied with Jamestown as a place to attend this type of event, but had relatively little interest in most other forms of possible visitor activities.

Implications

The survey identified several factors with implications for future marketing efforts. Respondents were nearly unanimous when asked about how likely they would be (generally not very likely) to participate in other events and/or activities in conjunction with a birding festival or birding trip. While at first blush their lack of interest in other activities may seem somewhat disconcerting, birders' single mindedness may actually be an advantage when marketing North Dakota as a birding destination. Respondents' perceptions of the Festival and of Jamestown and the surrounding area were very favorable, and they have little to no interest in other activities. That being said, marketing efforts can be focused to a very specific audience for a specific activity.

Respondents were also consistent in the timing of their decisions to attend the Festival and how they found out about the Festival. Local residents learned of the Festival from the local media and made the decision to attend the event either just prior to the event or weeks in advance. Non-local residents, however, relied on birding magazines, the internet, and Birding Drives Dakota brochures and more consistently made their decision to attend the Festival well in advance, most frequently 1 to 3 months prior to the event. Such consistency in participant behavior should enable marketing efforts to be timed to effectively target a specific audience.

The potential economic contribution of this form of nature tourism can be illustrated by an example of the direct and total economic impact of 1,000 visiting nature tourists (a number that could be associated with one large event, or with smaller numbers of visitors over a period of time). Assuming that expenditure patterns of these visitors are similar to those of the Potholes and Prairie Birding Festival participants, the North Dakota Input-Output Model was used to estimate their economy-wide impact (Table 8). The visitors' direct expenditures were estimated to total \$193,000 with most accruing in the *retail trade* sector (food and drink, gasoline, personal shopping) and the *business and personal services* sector (lodging). When the multiplier effect of these expenditures within the state economy is taken into account, the total impact of these visitors is estimated to be \$456,000. That is, each dollar of direct visitor spending results in about \$1.36 of additional gross business volume (gross receipts) in various sectors of the state economy, for a total of \$2.36. The additional economic activity would also have some tax implications by adding to the state and local tax collections. These levels of additional sales and receipts would be expected to support about 6 jobs within the area economy.

Table 8. Direct and Total Economic Impact of 1,000 Visiting Nature Tourists, Based on Participant Expenditures, Potholes and Prairie Birding Festival, 2004

Item	Economic Impact (Gross Business Volume)	
	Direct	Total
Economic Sector	-----dollars-----	
Retail Trade	108,000	176,000
Services	85,000	98,000
Households		104,000
Other Sectors		78,000
Total	193,000	456,000
Secondary Employment (Number of full-time equivalent jobs)		6

Conclusions

While the actual economic impact of the second annual Birding Drives Dakota Potholes and Prairie Birding Festival does not at this time represent a substantial contribution to the local economy, participant expenditure patterns demonstrate the development potential of birding activities. The participants were a highly educated group with very specific motivations. Combined with Festival participants' very positive endorsement of their experience at the Festival and the area's natural amenities, the potential for attracting additional birders to the area seems feasible and bodes well for further efforts to promote and develop birding activities as an economic development opportunity in rural North Dakota. By attracting additional participants, the Potholes and Prairie Birding Festival and other birding activities could, potentially in the near future, have a substantial economic impact on rural communities as well as the entire state.

References

- Bangsund, Dean A., and F. Larry Leistritz. 2003. "Hunter and Angler Expenditures, Characteristics, and Economic Effects, North Dakota, 2001-2002." *Agribusiness and Applied Economics Report No. 507*. Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.
- Coon, Randal C., and F. Larry Leistritz. 2002. *North Dakota Input-Output Model Data Base*. Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.
- Hodur, Nancy M., F. Larry Leistritz, and Dean A. Bangsund. 2004. "Characteristics of Nature-based Tourism Enterprises in North Dakota." *Agribusiness & Applied Economics Report No. 537*. Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.
- Kerlinger, P., and D.S. Weidner. 1991. The economics of birding at Cape May, New Jersey. In J.A. Kusler, ed. *Ecotourism and Resource Conservation V.1*. Second International Symposium: Ecotourism and Resource Conservation, Miami, FL.
- Kim, C., D. Scott, J. Thigpen, and S. Kim. 1998. "Economic Impact of a Birding Festival." *Festival Management & Event Tourism* 5: 51-58.
- Konrad, Paul M. 1996. "WildBird's Top 50 Birding Hotspots - The Best Birding Locations Await You Throughout North America." *WildBird*, September 1996 (reprint). Northern Prairie Wildlife Research Center Home Page, (Version 02OCT98), <http://www.npwrc.usgs.gov/resource/1998/wildbird.htm>.
- LaRouche, Genevieve Pullis. 2003. *Birding in the United States: A Demographic and Economic Analysis* (Addendum to the 2001 National Survey of Fishing, Hunting, and Wildlife-associated Recreation). U.S. Fish and Wildlife Service, Washington, DC, 20 pp.
- Leistritz, F. Larry. 1998. "Economic and Fiscal Impact Assessment." In *Environmental Methods Review: Retooling Impact Assessment for the New Century*, Edited by Alan L. Porter and John J. Fittipaldie, Fargo, ND: The Press Club, pp. 219-227.
- Leistritz, F. Larry, Steve H. Murdock, and Randal C. Coon. 1990. "Developing Economic-Demographic Assessment Models for Substate Areas." *Impact Assessment Bulletin* 8(4):49-65.
- Leones, Julie, Bonnie Colby, and Dristine Crandall. 1998. "Tracking Expenditures of the Elusive Nature Tourist in Southeastern Arizona." *Journal of Travel Research* 36:56-64.
- Lingle, G.R. 1991. "History and Economic Impact of Crane-watching in Central Nebraska." *Proceedings North American Crane Workshop* 6: 25-29.

- Partridge, Christina, and Kelly J. MacKay. 1998. "An Investigation of the Travel Motives of Bird-Watchers as a Nature-Based Tourist Segment." *Journal of Applied Recreation Research* 23 (3): 263-287
- Schneider, Ingrid E., and Rainry Salk. 2002. *Information Needs and Experience Preferences of Birders and Watchable Wildlife Participants*. Staff Paper Series 165, University of Minnesota, Department of Forest Resources, St. Paul.
- Tyrell, Timothy J., and Robert J. Johnston. 2001. "A Framework for Assessing Direct Economic Impacts of Tourist Events: Distinguishing Origins, Destinations, and Causes of Expenditures." *Journal of Travel Research* 40: 94-100.
- U.S. Fish and Wildlife Service. 2002. *Survey of Fishing, Hunting, and Wildlife Associated Recreation*. U.S. Department of Interior, Washington, DC.
- Wight, Pamela A. 1996. "North American Ecotourists: Market Profile and Trip Characteristics." *Journal of Travel Research* 34 (4): 2-10.
- Zickefoose, Julie. 2004. "A North Dakota State of Mind." *Bird Watcher's Digest*, March/April 2004.

Appendix A – Survey



Potholes and Prairie Birding Festival
Attendee Questionnaire
June 11-14, 2004

Confidential

1. What is your residential zip code? _____

2. Do you live in the Jamestown area? (*Please circle one.*)

YES

NO

If yes, please go to Question 4.

3. Is this your first visit to Jamestown?

YES

NO

4. Was the *Potholes and Prairie Birding Festival* your primary reason for visiting Jamestown?

YES

NO

5. Would you have visited Jamestown if not for the *Potholes and Prairie Birding Festival*?

YES

NO

6. How much do you plan to spend on the following while in the Jamestown area for the *Potholes and Prairie Birding Festival*?

Do not include any money spent for *Potholes and Prairie Birding Festival* registration fees or catered meals.

Food and beverage (restaurants, bars, etc.)	\$ _____
Lodging (hotels, motels, etc.)	\$ _____
Personal items/retail purchases, souvenirs, etc.	\$ _____
Local transportation (gas, taxi, bus, rental car)	\$ _____
Transportation to and from the festival (airfare, gas)	\$ _____
Other entertainment (charitable gaming, local attractions)	\$ _____
Other (please specify) _____	\$ _____

7. Is the spending above for **only you OR everyone** in your family or group? (*Circle only one.*)

Only Me

My Family

If for your family, how many in your family? _____

8. Will you be staying overnight in Jamestown?

YES

NO

If yes, how many nights? _____

9. Have you attended other birding events in the past? (*Please circle one.*)

YES

NO

If yes, how many events do you typically attend in a year? _____

If yes, what was the most recent event you attended? _____

If yes, what was the cost of registration at the most recent event you attended? _____

10. How did you find out about this event? (*Please check all that apply.*)

____ Bird Watcher's Digest or other birding magazines

____ Web search, Birding Drives Dakota website, or other website

____ Birding Drives Dakota brochure

____ State vacation guide

____ Local media (newspaper, radio, etc.)

____ Local hotel, restaurant, or store employee

____ Friend or relative

____ Other (please specify) _____

11. Approximately, how long ago did you decide to attend the ***Potholes and Prairie Birding Festival?***

_____ (*Please specify the number of days, weeks, or months ago.*)

12. How would you describe your interest in birding? (*Please circle one.*)

1 2 3 4 5
Casual Observer **Moderate** **Avid Enthusiast**

13. How likely would you be to recommend the festival to someone else? (*Please circle one.*)

1 2 3 4 5
Not at all likely **Neither** **Very likely**

If not at all likely, why not? _____

14. How likely are you to attend this festival in the next two years? (*Please circle one.*)

1 2 3 4 5
Not at all likely **Neither** **Very Likely**

If not at all likely, why not? _____

15. How much would you be willing to pay for registration for this event? _____

16. How likely would you be to participate in the following activities if they were available in conjunction with the ***Potholes and Prairie Birding Festival?***

	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
Hiking or biking	1	2	3	4	5
Fishing, water sports, boating, etc.	1	2	3	4	5
Horseback or wagon rides	1	2	3	4	5
Camping	1	2	3	4	5

16. (Cont'd) How likely would you be to participate in the following activities if they were available in conjunction with the *Potholes and Prairie Birding Festival*?

	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
Regional history, such as Lewis and Clark events and attractions	1	2	3	4	5
Working farm and ranch activities	1	2	3	4	5
Local festivals, county fairs, etc.	1	2	3	4	5
Native American heritage tours and events such as a Pow Wow	1	2	3	4	5
Fossil Digs	1	2	3	4	5
Golf	1	2	3	4	5
Other (please specify) _____ _____	1	2	3	4	5

17. Please rate your level of satisfaction on the following:

	Very Disappointed	Somewhat Disappointed	Neither	Satisfied	Very Satisfied	Do not Know/Not Applicable
Overall quality of the event	1	2	3	4	5	N/A
Tour guides	1	2	3	4	5	N/A
Workshop and keynote speakers	1	2	3	4	5	N/A
Transportation for guided tours	1	2	3	4	5	N/A
Event schedule and agenda	1	2	3	4	5	N/A
Event information and promotional material	1	2	3	4	5	N/A
Price of registration	1	2	3	4	5	N/A
Registration procedures	1	2	3	4	5	N/A

17. (Cont'd). Please rate your level of satisfaction on the following:

	Very Disappointed	Somewhat Disappointed	Neither	Satisfied	Very Satisfied	Do not Know/Not Applicable
Signage, maps, and supporting material for the event	1	2	3	4	5	N/A
Box lunches	1	2	3	4	5	N/A
Festival accommodations, such as meeting rooms, socials events, etc.	1	2	3	4	5	N/A
Brochures, maps, and general information about local services, attractions, etc.	1	2	3	4	5	N/A

18. Please rate your level of agreement with the following statements about Jamestown, the surrounding communities, and the Coteau region:

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree	Do not Know/Not Applicable
Jamestown and the surrounding area is a unique vacation destination.	1	2	3	4	5	NA
Jamestown and the surrounding area is a good weekend vacation destination.	1	2	3	4	5	N/A
Area residents and businesses are friendly.	1	2	3	4	5	N/A
Lodging accommodations are adequate.	1	2	3	4	5	N/A
Dining options are adequate.	1	2	3	4	5	N/A
Jamestown is a good place to take children for activities and attractions.	1	2	3	4	5	N/A
The area has several historical attractions.	1	2	3	4	5	N/A
Jamestown offers a variety of attractions.	1	2	3	4	5	N/A
Jamestown and the surrounding area has beautiful scenery.	1	2	3	4	5	N/A

18. (Cont'd). Please rate your level of agreement with the following statements about Jamestown, the surrounding communities, and the Coteau region:

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree	Do not Know/Not Applicable
There are many outdoor recreational opportunities in the area.	1	2	3	4	5	N/A
Jamestown and the surrounding area are a good value for my money.	1	2	3	4	5	N/A

19. Overall, would you say your visit to Jamestown was:

1	2	3	4	5
Very Disappointing	Somewhat Disappointing	Neither pleasant or unpleasant	Somewhat Pleasant	Very Pleasant

If Disappointed, what was disappointing about your visit to Jamestown?

20. What is your gender? **Male** **Female**

21. What is your marital status? **Married** **Unmarried** **Living with domestic partner or significant other**

22. What is your age? _____

23. What is the highest level of education you have completed?

- | | |
|--------------------------------------|--|
| _____ Grade School | _____ Some College |
| _____ High School or GED | _____ College Degree |
| _____ Vocational or Technical School | _____ Some Graduate School/Graduate Degree |

24. If 18 or older, what is your annual household income?

- | | |
|---------------------------|---------------------------|
| _____ less than \$25,000 | _____ \$ 75,0000 - 99,999 |
| _____ \$25,000 - \$49,999 | _____ \$100,000 - 124,999 |
| _____ \$50,000 - \$74,999 | _____ \$125,000 or more |

25. Please tell me what images and impressions come to mind when you think of Jamestown and the *Potholes and Prairie Birding Festival*? _____

26. What kind of activities or services would you like to see added to the festival that are not currently available? _____

27. Please feel free to add any additional thoughts or comments you may have regarding *Potholes and Prairie Birding Festival*, Jamestown, and the Jamestown area. We are very interested in your thoughts and suggestions as it is our intent to offer visitors to the area the best possible experience we can. We hope you are enjoying the weekend with Birding Drives Dakota!

*Thank you for taking the time to complete this questionnaire.
All responses are kept strictly confidential.
Enjoy the Potholes and Prairie Birding Festival!!!*

NOTICE:

The analyses and views reported in this paper are those of the author(s). They are not necessarily endorsed by the Department of Agribusiness and Applied Economics or by North Dakota State University.

North Dakota State University is committed to the policy that all persons shall have equal access to its programs, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Information on other titles in this series may be obtained from: Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND 58105. Telephone: 701-231-7441, Fax: 701-231-7400, or e-mail: cjensen@ndsuent.nodak.edu.

Copyright © 2004 by Nancy M. Hodur, F. Larry Leistritz, and Kara Wolfe. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.