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## Assessing the Economic Development of Nature Tourism

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## **ASSESSING THE ECONOMIC DEVELOPMENT POTENTIAL OF NATURE TOURISM**

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**ABSTRACT**—Nature tourism is increasingly being considered as an economic development opportunity for rural areas of the Great Plains. 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 central North Dakota in June 2004. The festival participants were predominately from outside the local area, and most of these visitors were from out of state. The festival participants were middle-aged and highly educated, and had relatively high income. The visitors spent an average of three nights in the local area, with an average local expenditure of \$160 per person. The visitors enjoyed the festival and the area; almost all would recommend the birding festival to a friend. The potential for growth of nature tourism in the area appears substantial.

**Key Words:** birding, Coteau region, economic impact, nature tourism, North Dakota

### **Introduction**

Rural communities around the country are increasingly looking to the tourism sector as a source of economic growth. With substantial growth in tourism over the past several decades, both in the United States and elsewhere in the industrialized world, tourism promotion has become an important economic development strategy (Gibson 1993; Honey 2002; Dowling 2003). Increased leisure time and discretionary income for substantial segments of the population have supported growth in tourism and recreation (Eadington and Redman 1991). The notion that tourism and recreation can contribute to the economic base of rural areas gains support when socioeconomic trends in rural recreation counties are examined (Johnson and Beale 2002). Since 1970, population growth of the 327 rural U.S. counties most economically dependent on recreation and tourism activities has been more than double the population growth in nonmetropolitan counties overall (Johnson and Beale 2002). During the 1990s, population growth in these tourism-dependent economies averaged 20.2%, compared to 6.6% for counties that were economically dependent on farming and 2.3% for those dependent on mining.

In the northern Great Plains, many rural counties have historically been dependent on farming and mining, and many have a history of population and economic decline. In North Dakota 46 of the 49 rural counties experienced declining populations during the 1990s (Coon and Leistriz 2003). While the state's manufacturing and exported services sectors registered substantial gains during this period, much of the growth was concentrated in the state's four metro counties (Coon and Leistriz 2003). As a result, tourism has been examined with growing interest by economic development professionals and policymakers as a potential rural economic development strategy.

The region's unique resources support the potential for tourism development. North Dakota's 62 national wildlife refuges, more than any other state and nearly as many as in the remainder of the Great Plains (65), showcase its potential for wildlife-oriented recreation (U.S. Fish and Wildlife Service 2003). In addition, over the past decade hunting and fishing by nonresident sportsmen has increased substantially in North Dakota (Bangsund et al. 2004), which in turn has stimulated the development of outdoor-recreation-oriented businesses (Hodur et al. 2004). Many business operators and other community leaders would like to broaden the region's nature-based tourism sector to include birding and other wildlife viewing, hiking, biking, and similar soft adventure activities (Wight 1996). However, little is known about the region's nature tourists, their backgrounds, interests, and satisfaction with available opportunities.

Previous research has identified nature tourists in general, and particularly birders, as a substantial source of economic activity. A recent nationwide survey revealed that 18 million people over age 16 had taken one or more trips (at least 1 mile from home) for the primary purpose of observing birds (LaRouche 2001). Leones et al. (1998) found that nature tourists visiting southeastern Arizona spent an average of \$177 per party (\$84 per person) per trip in the local area. Another study found that 8,000 avitourists annually visited the sandhill crane staging area on the Platte River in Nebraska, spending more than \$15 million (or approximately \$1,875 per person) (Lingle 1991). Given the wide range of findings from previous research, a study of participants in a local birding festival offered timely insights regarding this group of nature tourists.

One group trying to capture the economic development potential of North Dakota's natural resources is Birding Drives Dakota, a nonprofit corporation representing several communities formed to promote the Coteau region of central North Dakota as a birding destination. Birding Drives Dakota (BDD) has published a brochure that describes area birding opportunities, includes maps for self-guided tours, and offers tips for sighting birds unique to North Dakota, such as the Baird's sparrow. The group sponsors an annual event called the Potholes and Prairies Birding Festival. The first festival, held in 2003, was very successful, with more than 300 participants. This study focused on participants attending the 2004 festival in Jamestown, ND, on June 11-14.

The purpose of this study was to examine the present and potential economic impact of nature tourism in nonmetro areas of North Dakota. Specific objectives were: (1) determine the residence, demographic characteristics, and expenditures of participants attending the 2004 Potholes and Prairies Birding Festival (hereafter, "the festival"); (2) estimate the secondary and total economic impacts associated with the festival, including visiting participants' expenditures; and (3) examine the potential for further growth in birding and related activities in the region.

## **Methods**

### **Defining Direct Economic Impacts**

A major issue in assessing the economic impact of a festival or other event is properly defining its direct impact (Tyrrell and Johnston 2001). Many studies have not properly distinguished between the direct economic impact of an event (i.e., the net increase in regional expenditures directly related to the event) and the total expenditures of all event visitors and participants. In order to accurately

estimate the direct economic impact of an event, it is important to determine event attendees' motivation for attending or participating in a particular event, as well as to determine what attendees would have done in the absence of the event (Tyrrell and Johnston 2001).

Differentiating expenditures made by local residents from those made by visitors to the area is critical. For most local residents, spending at or in conjunction with a specific event (e.g., festival or sports event) is likely a substitute for another local entertainment or recreational activity (Baade and Matheson 2001). Accordingly, the net economic effect for the study area would be zero. However, some local residents may have a high degree of commitment to a particular type of event and would travel outside the local area to attend a similar event if not available locally. Expenditures by these local attendees are often termed "retained expenditures" and are part of the event's local economic impact (Gazel and Schwer 1997; Chhabra et al. 2003).

Generally, but not always, expenditures by nonlocal event attendees are included in the estimate of the event's economic impact. The role of the event in motivating a visit to the area determines whether or not expenditures made by nonlocal attendees are included in an estimate of the event's economic impact. For example, some nonlocal attendees may have traveled to the area for another purpose but attended the event because they were in the community. Often termed "casuals," these attendees' expenditures generally should not be included in the estimate of the event's direct economic impact. Another group of nonlocal attendees, often termed "time-switchers," also should be excluded from economic impact studies. Time-switchers reschedule a planned visit to the community to coincide with the event.

All the factors discussed above must be considered when assessing the economic impact of tourist-oriented events. To address these concerns, an intercept survey conducted at the festival asked both local and nonlocal attendees a series of questions to qualify the role of the event in motivating their visit to Jamestown. Specifically, respondents were asked: was the birding festival their (festival participants') primary motivation for visiting Jamestown, and would festival participants have visited Jamestown if not for the festival. Expenditures by non-Jamestown-area residents who indicated that the birding festival was *not* their primary reason for visiting Jamestown were excluded from the estimate of the economic impact of the event, as were expenditures made by local residents who indicated they would have visited Jamestown in the absence of the festival. (The question could have been phrased differently to more succinctly engage local area residents' motivation for attending the event and their participation in alternate activities in lieu of the festival. However, because such a small percentage of the participants were local and a very small percentage of their

expenditures were considered “new money” for the area, the authors gave priority to understanding the motivations of nonresident visitors.) 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.

### **Data Collection**

A written questionnaire distributed by the project team 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 personal retail purchases and their motivation for visiting Jamestown. The questionnaire also requested basic demographic information and inquired about the participants’ 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. One hundred and four individuals registered for the event, and 55 questionnaires representing 68 participants (couples often returned only one questionnaire) were obtained, for an effective response rate of 65%.

### **Estimating Secondary Economic Impacts**

Average expenditures of festival participants (after adjustments described above) were multiplied by total attendance figures to estimate the direct economic impact from visitor spending. Festival personnel provided information on operational expenditures (e.g., for catering, transportation, and guides) associated with the event. Secondary economic impacts were estimated by allocating both visitor expenditures and operational expenditures to appropriate business sectors (e.g., shopping expenditures to retail trade, lodging expenditures to business and personal services) and applying the interdependence coefficients of an input-output model of the area economy (Coon and Leistriz 2002). The model was developed from primary data from area firms and households and is closed with respect to households (households are included within the model) (Leistriz et al. 1990).

## **Results**

Almost 41% of festival participants were from outside North Dakota, while 24% were from the Jamestown area and 35% were from elsewhere in North Dakota (Table 1). Out-of-state visitors came from locations as distant as

TABLE 1

DEMOGRAPHIC CHARACTERISTICS OF ATTENDEES, BY RESIDENCE,  
POTHOLES AND PRAIRIES BIRDING FESTIVAL, 2004

Characteristic	Residence			Total
	Jamestown area	Elsewhere in North Dakota	Out of state	
<b>Gender</b>	-----Percent-----			
Male	33.3	50.0	57.7	50.0
Female	66.7	50.0	42.3	50.0
(n)		(53)		
<b>Education</b>				
High school or less	25.0	11.1	13.6	15.4
Some college or voc-tech	8.3	16.7	9.1	11.5
College degree	41.7	16.7	18.2	23.1
Graduate school	25.0	55.6	59.1	50.0
(n)		(52)		
<b>Household income</b>				
Less than \$50,000	45.5	11.8	21.1	23.4
\$50,000 to 74,999	36.4	41.2	26.3	34.0
\$75,000 to 99,999	18.2	11.8	15.8	14.9
Over \$100,000	0.0	35.3	36.8	27.7
(n)		(47)		
<b>Age</b>				
Mean	53.5	56.7	55.6	55.0
(n)	(12)	(19)	(22)	(54)
<b>Residency</b>	24.1	35.2	40.7	100.0
		(54)		

Oregon, Tennessee, and Utah, while in-state visitors primarily lived in North Dakota's largest cities (e.g., Fargo, Bismarck, and Grand Forks). The numbers of male and female participants were essentially equal. Average age was 55 years, with 74% of respondents between 40 and 69 years old (Table 1). The participants were highly educated; 73% had a college degree and 50% reported some postgraduate study. More than three-fourths of respondents (76.6%) reported household incomes of \$50,000 or more. When the demographic characteristics of visitors were compared with those of Jamestown-area residents, only a few differences were noted. Visitors were somewhat more likely to be male (54% compared to 33%) and college graduates (75% versus 67%), and to report higher income levels (83% with household incomes over \$50,000 compared to 55%). The small sample sizes associated with these subgroups, however, suggest that caution be used when making generalizations from these findings.

Although the survey instrument did not specify criteria, one-third of respondents described themselves as "moderate" birding enthusiasts, while 30% indicated they were "enthusiasts," 29% were "avid enthusiasts," and only 10% were "casual" birders. Respondents reported attending an average of 3.2 birding events per year; two-thirds of participants attended 1 or 2 events per year, 33% attended 3 or more events per year, and 12% attended 5 or more events per year. All Jamestown-area residents fell into the category of 1 or 2 events per year (Table 2).

The relationship between respondent's 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% attended two or more events. Of those who describe themselves as avid enthusiasts, 91% attended two or more events, of which 45% attended four or more (data not shown).

The decision to attend the festival was generally made a month or more before the event; 77% of respondents indicated their decision was made 5 weeks or more in advance (Table 2). Visitors more frequently made the decision to attend the festival 4 weeks or more in advance of the event. Forty percent indicated they made the decision to attend 1 to 3 months in advance while 38% indicated they made the decision to attend more than 3 months in advance. Slightly more than one-third of area residents made the decision to attend 4 weeks or less prior to the event (Table 2).

While festival participants learned of the event from a variety of sources, birding magazines (e.g., *Bird Watchers' Digest*) were cited most frequently (40%) as the source of information regarding the festival, followed by "local media" (36%) and "Birding Drives Dakota brochure" (21%) (Table 3). Local



TABLE 2

LEVEL OF INTEREST IN BIRDING, NUMBER OF EVENTS ATTENDED ANNUALLY, AND TIMING OF ATTENDANCE DECISION, BY RESIDENCE, POTHoles AND PRAIRIES BIRDING FESTIVAL, 2004

		Residence		
		Area residents	Visitors	Total
		-----Percent-----		
<b>Level of interest in birding</b>				
Casual observer	(1)	16.7	2.4	5.6
	(2)	16.7	2.4	5.6
Moderate	(3)	41.7	29.3	31.5
	(4)	8.3	34.1	29.6
Avid enthusiast	(5)	16.7	31.7	27.8
Average score		2.9	3.9	3.7
	(n)	(12)	(41)	(53)
<b>Number of events attended per year</b>				
1		60.0	22.2	30.3
2		40.0	3.7	36.4
3 or 4		0.0	25.9	21.2
5 or more		0.0	14.8	12.1
Average number attended		1.4	3.6	3.2
	(n)	(5)	(27)	(33)
<b>Number of weeks prior to event decision to attend was made</b>				
4 weeks or less		36.4	19.0	22.6
5 to 12 weeks (1 to 3 months)		9.1	47.6	39.6
13 weeks or more (3 months +)		54.5	33.3	37.7
Average number of weeks		22.0	15.0	17.0
	(n)	(11)	(42)	(42)

TABLE 3  
HOW ATTENDEE LEARNED OF FESTIVAL, BY RESIDENCE,  
POTHOLES AND PRAIRIES BIRDING FESTIVAL, 2004

	Residence			Total
	Jamestown area	Elsewhere in North Dakota	Out of state	
	-----Percent-----			
Birding magazines	16.7	21.1	68.2	39.6
Web sites	16.7	21.1	13.6	17.0
BDD brochure	16.7	42.1	4.6	20.8
State vacation guide	0.0	0.0	0.0	0.0
Local media	83.3	42.1	4.6	35.9
Local service employee	0.0	0.0	0.0	0.0
Friend or relative	25.0	15.8	9.1	15.1
(n)	(12)	(19)	(22)	(53)

residents most frequently cited “local media” as the source of information regarding the festival (83%), while visitors from out of state most often cited “birding magazines” (Birding Drives Dakota advertised in *Bird Watchers’ Digest*, and the magazine also ran a feature story about the 2003 festival.) Visitors from elsewhere in North Dakota reported using a variety of sources of information, including “BDD brochure” (42%), “local media” (42%), “birding magazines” (21%), and “Web sites” (21%). 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).

### Participant Expenditures

Festival participants spent an average of \$235 per person during the course of the four-day event (Table 4). The largest expenditures were made for “lodging,” “transportation to and from the area,” “food and beverage,” “local transportation,” and “personal shopping.” Because “transportation to/from the area” consisted primarily of outlays for airfare and car rental, it appeared that this expenditure category would not contribute to the Jamestown area economy

TABLE 4  
 AVERAGE EXPENDITURES PER ATTENDEE, BY RESIDENCE, POTHOLES  
 AND PRAIRIES BIRDING FESTIVAL, 2004

	Residence			Total
	Jamestown area	Elsewhere in North Dakota	Out of state	
	-----Dollars-----			
Total expenditures*	138.33	205.33	522.23	235.22
Food and beverage	30.00	34.72	69.55	34.13
Lodging	76.67	97.11	154.09	84.08
Retail, personal items	8.33	30.61	26.82	17.26
Local transportation	8.33	13.39	58.95	23.01
Transportation to area	10.83	23.94	207.59	73.30
Other	4.17	5.56	5.23	3.49
Total local expenditures <sup>+</sup>	127.50	181.39	314.64	161.91
(n)	(6)	(18)	(22)	(46)
Number of nights stayed	---	2.5	3.7	3.1
(n)		(13)	(18)	(31)

\* Expenditures do not include festival registration fees.

<sup>+</sup> Local expenditures exclude transportation to area.

and was accordingly excluded from the estimate of local economic impacts. Expenditures in the local impact area were estimated by subtracting transportation expenses to and from the area from the total expenditures reported by the respondents. Respondents' local expenditures averaged \$162 per person, ranging from \$127.50 for local residents to \$315 for out-of-state visitors (Table 4), not including participants' festival registration fees. Participants' outlays appear closely related to the number of nights they spent in the Jamestown area, which ranged from 2.5 nights for visitors from North Dakota to 3.7 nights for visitors from outside the state (i.e., some attendees spent less than the full four days at the festival, although all attendees from outside the local area reported spending at least two nights in Jamestown).

TABLE 5  
 DIRECT ECONOMIC IMPACTS, POTHoles AND  
 PRAIRIES BIRDING FESTIVAL, 2004

Economic sector	Local spending		Direct economic impacts		Total	Festival operation expense	Total direct impact
	Visitors	Area residents	Visitors	Area residents			
-----Dollars-----							
Retail trade	5,816	1,750	5,678	500	6,179	2,701	8,880
Business and personal services	6,145	3,031	5,999	867	6,866	8,315	15,181
Households	0	0	0	0	0	1,300	1,300
Government	0	0	0	0	0	365	365
Total*	11,962	4,781	11,677	1,367	13,045	12,681	25,726

\* May not add to totals due to independent rounding.

### Direct and Total Economic Impacts

As previously outlined, direct economic impacts were estimated by examining participants' reasons for visiting the area. Ninety-eight percent of visitors indicated that the festival was their primary reason for visiting the Jamestown area, while 29% of area residents indicated they would not have visited Jamestown if the festival had not been held. Accordingly, 98% of visitor expenditures and 29% of area resident expenditures were considered to represent direct economic impacts (Table 5). Direct impacts from participant spending was estimated at \$13,045, of which spending by visitors accounted for \$11,677, or 90%. By comparing direct impacts from participant spending (\$13,045) to total attendee expenditures (\$16,743), it is clear that unadjusted participant expenditures would substantially overstate the direct economic impact of the festival (i.e., by 28%).

Festival operating expenditures also contributed to the economic impact of the event. The BDD organization had nearly \$16,000 in operating expenses, largely paid for by revenues from registration fees. After adjusting for expenditures that obviously represented leakages from the local area (e.g., speakers'

TABLE 6  
 DIRECT AND TOTAL ECONOMIC IMPACTS,  
 POTHOLES AND PRAIRIES BIRDING FESTIVAL, 2004

Economic sector	Direct impacts	Total impacts
	-----Dollars-----	
Communications and public utilities	0	2,283
Retail trade	8,880	19,145
Finance, insurance, and real estate	0	2,377
Business and personal services	15,181	16,205
Households	1,300	16,470
Government	365	2,030
Other sectors*	0	5,581
<b>Total</b>	<b>25,726</b>	<b>64,091</b>

\* Includes agriculture, mining, manufacturing, construction, and professional and social services.

fees, airfare), about 81% of the operating expenditures (\$12,681) were estimated to represent direct impacts to the area economy (Table 5). Direct impacts from festival operations were added to the direct impacts from participant expenditures for a total of \$25,726 in direct economic impacts.

Festival participants' expenditures and festival operating expenses were allocated to appropriate sectors of the input-output model (e.g., food and beverage purchases to the *retail trade* sector, lodging to the *business and personal services* sector), and the interdependence coefficients of the North Dakota Input-Output model were applied. Most of the direct impacts accrued to the *business and personal services* sector (60%) and the *retail trade* sector (32%). Total (direct plus secondary) economic impacts, however, were more widely distributed, with the *retail trade* sector accounting for the largest single amount (\$19,145), followed by *households* (i.e., personal income) and *business and personal services* (Table 6). The total economic impact (direct and secondary) of the event was estimated to be \$64,091.

### **Potential for Future Growth**

State and local decision makers have many questions about the state's fledgling nature tourism industry. Often questions regarding the sector's potential for future growth are foremost. While this study cannot provide a conclusive answer, the survey of festival participants does provide some insights. Of special interest were the participants' satisfaction with the event and with the facilities and services available in the Jamestown area. Also especially telling were participants' interest in other types of activities, if available in conjunction with a future event. Finally, the survey may offer some key insights about how marketing efforts could be targeted to this clientele.

Respondents' level of satisfaction with the festival itself was nearly unanimous: 98% of respondents indicated they were "very satisfied" or "somewhat satisfied," an endorsement sure to please event planners. When asked if they would recommend the festival to a friend, 54% of respondents indicated they would be "very likely" and the remaining 46% would be "somewhat likely" to do so. In addition, 65% of respondents indicated they would be "somewhat likely" or "very likely" to attend the festival again within the next two years. These responses indicate the respondents had a strong positive impression of the festival.

While rural areas may offer unique natural resources and recreational opportunities, concerns regarding the adequacy of the local infrastructure to meet the expectations of an urban clientele are often raised. This issue was explored via a series of questions assessing the visitors' satisfaction with the Jamestown area and its visitor accommodations and attractions. All but 4% of the respondents rated their visit to the Jamestown area as "somewhat pleasant" or "very pleasant," with 66% rating it "very pleasant." When asked to comment on various aspects of the community, 70% or more of respondents gave a positive evaluation to each attribute, with lodging accommodations rated favorably by 90% of respondents and dining options rated positively by 73%. Accordingly, community infrastructure does not appear to be a constraint to further development of nature tourism in this area.

In addition to concerns regarding local infrastructure, questions regarding the absence of a range of activities available for visitors are often raised. To gauge festival attendees' interest in participating in other activities, participants were asked how likely they would be to participate in a variety of activities if made available in conjunction with a future festival. Generally, the respondents did not demonstrate an inclination to participate in other activities in conjunction with birding. "Regional history," "hiking or biking," and "local festivals,

county fairs” were the only activities that 50% or more of respondents indicated they would be likely to participate. Further, half or more 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. Thus, it does not appear that developing other types of associated activities is necessary to attract nature tourists to the area.

Because of their very specialized interests, this group of nature tourists seems to offer an opportunity for targeted marketing through specialized birding magazines. Respondents were consistent in when they made decision to attend the festival and how they learned of the festival. Local residents largely learned of the event through local media (83%), while other (nonlocal) North Dakota residents relied heavily on local media (42%) and BDD brochures (42%). Out-of-state participants relied heavily on birding magazines (68%). Such consistency in participant behavior should enable marketing efforts to be effectively targeted to this very specific audience.

### **Conclusions**

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 larger cities. Several rural areas are attempting to use bird-watching 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.

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, with more than 70% between ages 40 and 70. As has been reported in other studies of birders and nature tourists (Wight 1996; Leones et al. 1998; Schneider and Salk 2002), the festival participants were highly educated (73% had college degrees) and had relatively high income levels. Visitors from outside the Jamestown area generally attend one or two birding events per year, but

almost 40% indicated that they attend three or more per year. Most participants 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 Watchers' Digest*), through brochures prepared by the event organizers or through 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," "hiking or biking," "other local festivals (e.g., county fair)," and "Native American heritage activities/events," whereas they had very limited interest in "golf" or "fishing/boating." However, some did indicate interest in learning more about related nature tourism opportunities (e.g., wildflowers, butterflies) in the local area, as well as birding opportunities in other regions of the state. 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. Given the satisfaction of the participants, who seemed to represent a cross section of the potential birding clientele, the potential for growth of nature tourism in the area appears substantial.

The potential economic contribution of this form of nature tourism could also be substantial. This potential 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 time). Assuming that expenditure patterns of these visitors were similar to those of the festival participants, the visitors' direct expenditures would 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 area 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 impact of \$2.36. These levels of additional sales and receipts would also add to state and local tax revenues.

While the actual economic impact of the second annual Birding Drives Dakota's Potholes and Prairie Birding Festival does not now represent a major contribution to the local economy, participant expenditure patterns demonstrate the development potential associated with birding activities. Further, 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 substantial 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 and wildlife viewing activities could potentially in the near future have a substantial economic impact on rural communities as well as the entire state.

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