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Economic Contribution of Public Park and Recreation Activities in North Dakota: A Summary of Economic Effects

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Executive Summary

Recreation and leisure activities provide important quality of life attributes in communities and cities across the United States. Most cities and communities in North Dakota have a variety of facilities and programs that are targeted at providing general recreation, sports events, and other leisure activities. Those facilities and organizations are often funded with public resources largely supported by community members, area businesses, and local participants. While the primary reason for using public resources to support those activities is to provide affordable and accessible recreation services to the local community, those facilities, programs, and recreational opportunities also provide economic benefits to the communities.

This study was intended to provide a comprehensive assessment of the economic contribution of public park and recreation agency programs, sports leagues, community activities, and public facilities. The study examined the economic effects of public park and recreation operations in Bismarck, Devils Lake, Dickinson, Grand Forks, Fargo, Jamestown, Mandan, Minot, Valley City, Wahpeton, West Fargo, Williston, and the North Dakota Parks and Recreation Department (NDPRD). Information on the number and type of leagues, programs, sports events, facilities, and community activities were obtained for each of the 12 park districts, along with information on special events held at North Dakota's 13 state parks.

The economic assessment of park district programs, events, and facilities and visitation at the North Dakota's state parks required estimating spending by participants, spectators, visitors, and vendors over a range of activities, locations, and dates throughout the year. A combination of intercept surveys and on-line survey instruments were used to solicit information on local and in-state spending by participants and visitors. Park district and agency personnel administered the intercept surveys.

Participation in leagues, sporting events, and community activities was estimated to be 505,000 individuals in 2012. Estimates of spending per participant were multiplied by total participation in the appropriate events, leagues, and community activities to arrive at estimates of total participant spending. Total in-state spending for youth sport leagues, adult sport leagues, youth sports events, adult sports events, and community activities was $67.6 million in 2012. Total in-state spending by participants/visitors to campgrounds, zoos, water parks/amusement parks, and golf courses with direct involvement by city park districts was estimated at $76.6 million in 2012. The combined spending of participants in leagues, sports events, and community activities and spending associated with individuals using selected facilities in the 12 park districts was estimated at $144 million in 2012. The 12 city park districts collectively had over $79 million in operational expenditures in 2012. Total in-state expenditures in 2012 for the city park districts were estimated at $223 million.

Expenditures by the NDPRD for maintenance and operations for 13 state parks, 8 recreation areas, and 7 nature preserves for 2012 were estimated at $9.9 million. Expenditures for both general visitation and participation at special events at North Dakota's state parks were

estimated at $89 million per year from 2009 through 2011. Combined expenditures for visitor spending at state parks and operational expenses were estimated at $99 million in 2012.

Total direct impacts associated with the city park districts and the NDPRD were estimated at $322.6 million in 2012. Estimates of participant and visitor spending, along with operational expenditures, were allocated to various economic sectors of the North Dakota Input-Output Model to arrive at estimates of gross business volume (i.e., gross receipts) by economic sector.

Collectively, the study's 12 park districts had over $223 million in direct expenditures in the North Dakota economy in 2012, which generated about $346 million in secondary business activity. Total direct impacts of $99 million associated with the NDPRD generated about $134 million in secondary business activity. Total secondary business activity was estimated at about $480 million in 2012.

Total economic impacts (combined direct and secondary impacts) for the city park districts were estimated at $569 million. The NDPRD was estimated to have a total economic effect of nearly $233 million in 2012. The overall gross business volume (combination of direct and secondary economic impacts) was estimated at $802 million.

Total direct employment for the park districts and the NDPRD was estimated at 1,028.5 full-time equivalent positions. About 62 percent of all direct employment was represented by part-time and seasonal employment. Secondary business activity resulting from participant spending and operational spending of park districts and the NDPRD was estimated to sustain 1,417 jobs in the North Dakota economy.

Governmental revenues are another important measure of the economic impact of an industry on an economy. Total collections of state sales and use, personal income, and corporate income taxes arising from secondary economic activity were estimated at $9.2 million in 2012.

The study represents the first economic assessment of a broad array of park district programs, events, activities, and facilities throughout North Dakota. While the study encompassed a reasonably comprehensive assessment of organized programs, activities, and participation at selected facilities, the study had several limitations. Due to study resources, the analysis omitted some events held on park district facilities (e.g., North Dakota High School Activities Association events), omitted vendor spending at events and activities, omitted participation and spending at some facilities (e.g., swimming pools, recreation centers), and did not include participation and associated spending with open-access facilities (e.g., trails, boat ramps, picnic areas) in the study communities. Despite these limitations, the study gathered data on participation and spending across a wide array of park district offerings in the state. The study also provided the first assessment of visitor spending at state parks that included specific adjustments for day visitors, overnight guests, and participants at special events held at state parks.

Park districts' involvement in hosting events and activities in the study communities represented a broad spectrum of administration. Park districts across the 12 study cities had a large

number of events and activities that involved partnering with other entities or assisting private associations by providing facilities for use in their events and programs. These partnerships and cooperative arrangements with private groups and associations clearly show the willingness and ability to leverage public resources to support the provision of leagues, sports events, programs, and activities in the study communities. These partnerships and cooperative arrangements accentuate the economic effects associated with public recreational facilities.

Results from this study clearly show a substantial amount of participation and personal spending is associated with individuals and families partaking in the many programs, leagues, events, activities, and facilities of the park districts in North Dakota. The amount of spending is reflective of the value of park districts' offerings among its users. When park district impacts are combined with those of the North Dakota Parks and Recreation Department, it is clear that recreational effects stem beyond those only participating or visiting various attractions, and represent an important part of the regional and state economies.

Economic Contribution of Public Park and Recreation Activities in North Dakota: A Summary of Economic Effects

Dean A. Bangsund and Nancy M. Hodur*

INTRODUCTION

Recreation and leisure activities provide important quality of life attributes in communities and cities across the United States. Most cities and communities in North Dakota have a variety of facilities and programs that are targeted at providing general recreation, sports events, and other leisure activities. Those facilities and organizations are often funded with public resources largely supported by community members, area businesses, and local participants. While the primary reason for using public resources to support those activities is to provide affordable and accessible recreation services to the local community, those facilities, programs, and recreational opportunities also provide economic benefits to the communities.

Tourism, in a broad context, can be a valuable co-benefit of recreational facilities and programs in a local community. So much so that many park districts leverage local support with revenues from non-local participants as a means to fund and maintain those facilities. The development of sporting- and community-based activities also can represent an effective strategy to enhance local tourism since amateur sports and other related activities represent a means to increase business activity in a local economy.

While tourism may not be the primary goal of local public park and recreation agencies, their events, programs, and activities can provide positive economic effects on the local economy. In many cases, regional or national amateur sporting events can provide boosts to state economies as many participants represent out-of-state visitors. Additionally, general and theme-based facilities can be viewed as area attractions that draw non-local patrons.

Local public park and recreation agencies play an important role in the success of amateur sporting activities. Part of the interest in amateur sports can be attributed to programs targeting young kids, and to providing opportunities for participation in sports that are otherwise not available through public education or similar venues. Local public park and recreation agencies often partner with private organizations to enhance participation of youth in various sports. The provision of programs, development of recreational facilities, and partnering with booster organizations all contribute to the success of amateur sports in the region. These factors help support the development and success of leagues and traveling-teams, as well as interest in the community to support those activities and facilities.

While youth and adult sports leagues and sporting events represent a readily identifiable community service, park and recreation agencies also provide a variety of community-based, family-focused programs and activities. Just as with sporting events that produce non-local

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participation, many of the community activities can serve to enhance local and regional economies. Several community events held throughout the year in various cities in North Dakota serve to attract non-local and out-of-state visitors. So while those services act to enhance quality of life attributes in their respective communities, they also can provide economic benefits to those regional economies.

The purpose of this study was to examine the economic effects of public park and recreation agency programs, sports leagues, community activities, and select facilities throughout the state. Specifically, activities associated with 12 individual city park and recreation agencies (i.e., often called park districts) were included in the study, along with North Dakota's state park system. While the economic effects of North Dakota's state parks has been estimated in previous assessments, this study represents the first economic assessment of the business volume associated with various local public park and recreation agencies in the state.

This report is intended to provide a comprehensive assessment of the economic contribution of public park and recreation agency programs, sports leagues, community activities, and select facilities. Another report (Hodur and Bangsund 2013) contains estimates of local spending and provides statistical results (e.g., means, useable observations, spending distributions) from the study's broad data collection efforts.

PROCEDURES

An economic contribution analysis, as defined in this study, represents an estimate of all relevant expenditures and returns associated with an industry. The economic contribution approach to estimating economic activity has been used for several similar studies in North Dakota (Bangsund and Leistritz 2003; Hodur et al. 2004a,b; Taylor et al. 2013).

Analysis of public park and recreation activities required several steps. Discussion of the procedures used in the study was divided into the following sections: (1) assessment of the scope and type of activities, programs, and facilities, (2) intercept surveys, (3) extrapolation of intercept surveys, and (4) application of input-output analysis.

Scope of Study

The study included public park and recreation operations in 12 cities and activities of the North Dakota Parks and Recreation Department (NDPRD). Cities included in the study were Bismarck, Devils Lake, Dickinson, Grand Forks, Fargo, Jamestown, Mandan, Minot, Valley City, Wahpeton, West Fargo, and Williston. The NDPRD activities primarily included North Dakota's 13 state parks.

Information on the number and type of events, facilities, and programs was obtained for each of the 12 park districts and for North Dakota's 13 state parks. The scope of the activities present in the individual park districts and the events held at the state parks provided the basis to develop a framework for data collection and survey administration (Hodur and Bangsund 2013).

Activities for the city park districts were grouped into youth leagues/programs, adult leagues/programs, community events, youth sports events, and adult sports events based on the inherent characteristics of the event or activity. Limitations on study resources prevented some events, such as North Dakota High School Activities Association sporting events held on park district facilities, from being included in the study. In addition to programs and events, some park districts had facilities that provided recreational activities separate from the districts' programs or activities (e.g., campgrounds, zoos). General participation at golf courses, zoos, water parks/amusement parks, and campgrounds was included in the study. Study resources prevented other, more general use facilities that are available to the public without registration, access limitations, or other restrictions from being included in the study. Examples of those open-access facilities include walking trails, bike trails, city parks, winter skating rinks, ski trails, picnic areas, boat ramps, and other facilities (see Appendix C for a complete listing of all public facilities by city park district). Therefore, participant spending associated with general use of those open-access facilities was not included in the study.

All park district activities (i.e., leagues, sports events, community events) were placed into three sponsorship classes to delineate the different organizational and administrative responsibilities of the park districts. Park district sponsorship included only those activities that were exclusively offered by the park districts, without shared administration with a third party,

although financial partners often contribute resources for the events. Sponsorship in a partnership arrangement was characterized by the following criteria: park districts were the lead or major partner working in close association with other organizations; park districts were publically acknowledged as an event sponsor; a park district's involvement was necessary to hold the event in the community; and park districts could be expected to provide facilities, staff, and/or financial support. Private sponsorship was characterized by the following criteria: park districts had minimal involvement in event administration; the most common level of involvement was limited to providing access to existing facilities; and events in this category would likely be held elsewhere in the community without a park district's involvement.

Participant and Spectator Spending

The economic assessment of park district programs, events, and facilities and visitation at the North Dakota's state parks required estimating spending by participants, spectators, and visitors over a range of activities, locations, and dates throughout the year[1]. A combination of intercept surveys and on-line survey instruments were used to solicit information on local and in-state spending by participants and visitors. Survey instruments also gathered information on participant characteristics and motivation for participation (see Appendix A for an example of an intercept questionnaire). Implementation of the intercept surveys was accomplished using park district and agency personnel, event sponsors or organizing members, and general volunteers. The research team provided instructions, reviewed intercept protocols with agency representatives, and provided suggestions to implement intercept surveys for the various activities. Representatives from the park districts and the NDPRD provided on-sight administration of the surveys and returned all completed questionnaires for analysis.

Park Districts

A sample of events, leagues, and programs was selected that was representative of the type, size, and location of activities associated with the 12 park districts over the 2011 to 2012 period. The sample consisted of events from each participating city and included representation for youth and adult sporting events, youth and adult sport leagues, community activities, and selected facilities (Tables 1 and 2).

State Parks

Several state parks implemented intercept surveys at various times throughout the year to collect data on local and trip-related spending by visitors[2]. A representative sample of organized special events held at various state parks throughout the year was selected for intercept surveys of event participants (Table 3). Participants of those events usually travel to the state park specifically for the event, as opposed to event participation primarily coming from visitors already at the park for other reasons. Participants of several special events were surveyed to capture the local and trip-related spending that resulted from attending an organized event at a state park that would not otherwise be measured in the general intercept survey of park visitors.

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[1] Local and statewide spending associated with vendors should be included in a comprehensive assessment of event spending. Initial survey efforts attempted to gather spending information from vendors; however, data on vendor spending and data on the number of vendors at various events were insufficient to include estimates of spending in the study.

[2] Intercept surveys were implemented at the following state parks: Fort Ransom, Lake Metigoshe, Lewis and Clark, Fort Stevenson, Icelandic, Sully Creek, and Grahams Island.

Table 1. Events Selected for Intercept Surveys, City Park Districts, 2011 and 2012				
Event Name	Event Category	Type	Dates	City/Location
McQuade's Softball Tournament	Adult Sports	softball	June 2012	Bismarck/Mandan
Men's Slow Pitch National Softball Tournament	Adult Sports	softball	Sept 2012	Mandan
Baron's Old Timers Hockey Tournament	Adult Sports	hockey	Mar 2012	Grand Forks
Grand Am Tournament	Adult Sports	basketball	Mar 2012	Grand Forks
Men's Rec IV East State Softball Tournament	Adult Sports	softball	Aug 2011	Grand Forks
Curling Bonspiel	Adult Sports	curling	July 2012	Bismarck
Winterfest	Adult Sports	volleyball	Feb 2012	Fargo
Amateur Basketball Tournament	Adult Sports	basketball	Feb 2012	Dickinson
International Skate Competition	Adult Sports	skating	Jan 2012	Minot
State Racquetball Tournament	Adult Sports	racquetball	Mar 2012	Bismarck
Archery Tournament	Adult Sports	archery	Mar 2012	Jamestown
U.S. ParaOlympics Swim Meet	Adult Sports	swim	June 2012	Bismarck
Bismarck Open Tennis Tournament	Adult & Youth	tennis	Aug 2011	Bismarck
Squirt International Hockey Tournament	Youth Sports	hockey	Feb 2012	Fargo
American Legion Baseball Tournament	Youth Sports	baseball	Aug 2011	Dickinson
Girls Junior Olympic Softball Tournament	Youth Sports	softball	July 2012	Jamestown
Optimist Basketball Tournament	Youth Sports	basketball	Apr 2012	Dickinson
Hockey Tournament	Youth Sports	hockey	Mar 2012	Wahpeton
Babe Ruth Baseball Tournament	Youth Sports	baseball	July 2011	Jamestown
Basketball Tournament	Youth Sports	basketball	Mar 2012	Valley City
Hershey's State Track Meet	Youth Sports	track & field	June 2012	Devils Lake
Kite Festival	Community Event	festival	June 2012	Jamestown

- continued -

Table 1. Continued

Event Name	Event Category	Type	Dates	City/Location
Hawaiian Beach Blast	Community Event	festival	Aug 2012	West Fargo
Devils Run Car Show	Community Event	general	June 2012	Devils Lake
Island Park Art Show	Community Event	arts/crafts	Aug 2011	Fargo
Cabin Fever Days	Community Event	sports	Feb 2012	Jamestown
Ruckus at the Rec	Community Event	kids/family	Oct 2011	Valley City
Summerthing Kids	Community Event	kids/family	June 2012	Grand Forks
Winter Daze	Community Event	kids/family	Jan 2012	Mandan
Honkin Haulin Hands-on Trucks	Community Event	kids/family	Sept 2011	West Fargo

Table 2. Facilities Selected for Intercept Surveys, City Park Districts, 2011 and 2012	
Facility	Cities
Golf Courses	Bismarck, Dickinson, Fargo, Jamestown
Water Park	Mandan
Swimming Pools	Grand Forks
Campgrounds	Fargo, Wahpeton
Zoos	Wahpeton

Table 3. Events Selected for Intercept Surveys, North Dakota State Parks, 2012				
Event Name	Event Category	Type	Dates	State Park
Frontier Military Days	State Parks	history	June 2012	Ft. Stevenson
Governors Cup Fishing	State Parks	fishing tournament	July 2012	Ft. Stevenson
Halloween in July	State Parks	campground event	July 2012	Lake Metigoshe
Sodbuster Days	State Parks	major event	July 2012	Ft. Ransom
Haunted Fort	State Parks	major event	Oct 2011	Ft. A. Lincoln
Badlands Trail Ride	State Parks	appreciation/service	July 2012	Little Missouri

Extrapolation of Survey Results

Participation and visitor data was obtained from the park districts and the NDPRD. In the case of park district events, the number of participants was estimated from event registrations or other event records. Events, activities, and programs were grouped into various categories (e.g., youth leagues, adult sports events), and the total number of participants was summed for the various categories of activities for each park district. For example, total participation in youth sports events would represent the sum of all the participants for each youth sports event. Also, within each category for each city, participation was similarly summed by sponsorship level. For example, for youth sports events, total participation also was summed by park district, partnership, and private sponsorship levels.

Survey data was matched to participation for the various events within each category of activities to estimate total spending for all park district activities. For example, survey data from a youth basketball tournament was used to estimate spending for basketball tournaments in other cities. Likewise, survey data for various types of community events were applied to estimate spending for other similar types of community events in other cities. Visitor spending data from the seven state parks conducting intercept surveys was averaged and applied to total visitation at each state park. In some cases, survey data was applied to events or activities that had similarities in terms of equipment requirements, nature of play, or other characteristics which provided the best fit for the survey data. In yet other situations for which no real good fit existed between the intercept data in terms of event or activity characteristics, an average spending value from several intercept events was used.

Survey data underwent several statistical processes to account for missing values and outliers. Outliers were handled by removing observations with spending that exceeded three standard deviations (i.e., using the appropriate metrics such as per person or per trip). Additional adjustments to the survey data included removing observations that represented excessively large groups of individuals (e.g., one person reporting spending for 10 or more people) since those observations were perceived to be interpreted by the respondent as traveling with the team rather than the number of individuals that physically traveled together. Further adjustments included assigning group averages for missing observations (e.g., group size) that allowed those survey observations to be used in the overall calculation of average spending for the survey group [see Hodur and Bangsund (2013) for review of statistical procedures involving survey data].

Agency and Departmental Expenditures

Data on expenditures for city park districts and the NDPRD were obtained. As part of the economic effects, expenditures from general revenue, special revenue, debt service, social security, forestry, enterprise, and pension funds were included in the analysis. Expenditures generally represented outlays for maintenance, salaries, administration, construction, debt service, repairs, professional services, advertising, equipment purchases, and general operations for each city and for the NDPRD.

Revenue sources were not directly examined, as it was assumed that annual expenditures would represent annual revenues. To avoid double counting, revenues from participant fees for leagues and programs, along with miscellaneous revenues from various facilities and community activities, were excluded from participant spending estimates. Fee and participant revenue was assumed to be injected into the local economy through expenditures for operations associated with those programs and events and would be captured in the expenditures associated with park district operations.

Input-output Analysis

Economic activity from a project, program, policy, or activity can be categorized into direct and secondary impacts. Direct impacts are those changes in output, employment, or income that represent the initial or first-round effects of a project, program, or event. Secondary impacts (sometimes further categorized into indirect and induced effects) result from subsequent rounds of spending and respending within an economy. This process of spending and respending is sometimes termed the multiplier process, and the resultant secondary effects are sometimes referred to as multiplier effects (Leistritz and Murdock 1981).

Input-output (I-O) analysis is a mathematical tool that traces linkages among sectors of an economy and calculates the total business activity resulting from a direct impact in a basic sector (Coon et al. 1985). The North Dakota I-O Model has 17 economic sectors, is closed with respect to households (households are included in the model), and was developed from primary (survey) data from firms and households in North Dakota.

Estimates of participant and spectator spending were allocated to various economic sectors based on the type of expenditure. For example, purchases of gas and souvenirs would represent business activity in the *Retail Trade* sector of the North Dakota I-O Model. Expenses for lodging and restaurant dining are contained with the *Business and Personal Services* sector. Total expenditures in various economic sectors were then applied to the interdependence coefficients of the model to arrive at estimates of gross business volume (i.e., gross receipts) by economic sector.

RESULTS

The economic contribution of city park districts was based on in-state expenditures associated with administration of programs, events, and activities, maintenance of recreational facilities, and spending by participants of those programs, events, and activities. Similarly, the economic contribution of the NDPRD included in-state expenses for development, upkeep, and operations of North Dakota's 13 state parks, 8 recreation areas, and 7 nature preserves and natural areas, in addition to trip-related expenditures by visitors to North Dakota's state parks.

Direct Impacts

From an economic perspective, direct impacts are those changes in economic output, employment, or income that represent the initial or first-round effects of a project, program, or activity. The direct impacts in this study included expenses for participants and spectators of sport leagues, programs, community activities, facilities, and sporting events sponsored by city park districts. In addition, a number of sporting events that used park district facilities but were primarily organized and sponsored by another organization were also included (e.g., North Dakota Amateur Softball Association state softball tournaments using park district softball diamonds). Travel or trip-related spending associated with visitors to North Dakota state parks represented direct economic effects. Finally, expenditures by both city park districts and the NDPRD for maintenance, salaries, administration, construction, and general operations also represent direct economic effects in this study.

City Park District Participant and Spectator Spending

Expenses for participants and spectators of sport leagues, programs, community activities, facilities, and sporting events represented direct impacts for the study. Expenses represent a combination of participation and per person spending.

Participation in leagues, sporting events, and community activities was estimated to be over 505,000 people in 2012 (Table 4). However, participation does not represent unique individuals, as individuals could attend more than one event, or participate in several leagues or sporting events over an entire year. Participation between park district sponsored events and partnership sponsored events were nearly equal with 38 percent of all participation coming from park district events and activities and 39 percent from partnerships between the park district and another sponsoring agency or group. Privately sponsored events and activities represented about 23 percent of total participation (Table 4).

Community events had the highest level of participation, regardless of sponsorship, with 56 percent of all participation or nearly 282,000 people attending those events in 2012 (see Appendix B for a more complete breakout of participation by park district). Following community activities, youth leagues had 17 percent of all participation with 88,000 individuals, adult leagues had 10

percent of all participation with about 51,500 participants, and adult and youth sporting events combined for 17 percent or about 84,000 total participants (Table 5).

Participation among the various types of leagues and activities were not equally distributed between park district, partnership, or private sponsorship (see Appendix B). About 53 percent of all youth league participants were associated with park district sponsorship. Partnership sponsored youth leagues represented about 39 percent of all youth league participants. Park district sponsorship of adult leagues represented about 65 percent of all adult league participants, with about 27 percent associated with partnership sponsored leagues. Participation in adult sporting and youth sporting events for park district sponsorship was around 15 percent of all sporting events participation. Partnership sponsorship represented about 57 percent of all adult sports events participation and about 43 percent of youth sports events. Community events and activities were generally more evenly split among the sponsorship categories than leagues and sports events (See Appendix B).

Table 4. Participation in Leagues, Programs, Events, and Activities, by Sponsorship Category, City Park Districts, 2012

City	Sponsorship of Leagues, Activities, and Events			Total Participation
	Park District	Partnership	Private	
Bismarck	28,883	58,039	11,223	98,145
Devils Lake	5,380	11,720	5,560	22,660
Dickinson	5,476	4,720	13,335	23,531
Fargo	75,543	23,493	22,555	121,591
Grand Forks	26,557	19,085	16,800	62,442
Jamestown	8,740	2,795	0	11,535
Mandan	6,154	13,792	10,782	30,728
Minot[a]	1,240	41,016	7,160	49,416
Valley City	4,285	6,452	7,265	18,002
Wahpeton	3,145	1,975	500	5,620
West Fargo	20,900	8,392	2,605	31,897
Williston	6,495	4,220	18,910	29,625
Total	192,798	195,699	116,695	505,192

Note: Participation does not include spectators or family members not directly participating in the event.

[a] Minot's participation estimates were representative of activity levels prior to the 2011 flood.

Table 5. Participation by Event Type, City Park Districts, 2012						
	Park District, Partnership, and Private Sponsorship					
City	Youth League	Adult League	Youth Sport Events	Adult Sport Events	Community Activities	Total
Bismarck	34,489	14,491	7,216	11,321	30,628	98,145
Devils Lake	2,120	1,290	1,400	6,500	11,350	22,660
Dickinson	2,660	2,398	2,080	2,393	14,000	23,531
Fargo	13,770	16,845	12,845	7,505	70,626	121,591
Grand Forks	5,227	4,560	6,055	6,900	39,700	62,442
Jamestown	3,545	1,595	700	1,145	4,550	11,535
Mandan	3,660	2,264	360	5,737	18,707	30,728
Minot[a]	12,688	4,015	2,313	300	30,100	49,416
Valley City	1,794	513	2,550	1,925	11,220	18,002
Wahpeton	1,555	955	1,310	300	1,500	5,620
West Fargo	4,467	702	1,305	609	24,814	31,897
Williston	2,340	1,906	589	320	24,470	29,625
Total	88,315	51,534	38,723	44,955	281,665	505,192

Note: Participation does not include spectators or family members not directly participating in the event.

[a] Minot's participation estimates were representative of activity levels prior to the 2011 flood.

Facilities selected for intercept surveys generally represented regional attractions (e.g., zoos) or represented other recreational services not adequately captured with sport leagues, sports events, or community activities (e.g., campgrounds, golf courses). Other, more general use facilities available for the public without registration, access limitations, or other restrictions were excluded from the study. Examples of those facilities include walking trails, bike trails, city parks, winter skating rinks, ski trails, picnic areas, and other facilities (See Appendix C for a listing of facilities by city park district). Participant spending associated with general use of those open-access facilities was not included in the study.

Including golf courses and swimming pools[3] in the analysis created the potential for overlap in participation if the same facility hosted leagues or other sporting events. When participation in league or sporting events was reported separately from estimates of facility participation, those programs or sporting events were included in their respective categories (e.g., youth golf league would be listed in youth leagues for that city). When facility participation included participation for leagues and/or sporting events, then leagues and sporting events using those facilities were excluded from the study. Therefore, participation in golf leagues, golf tournaments, and other activities at those facilities were only counted once.

Golf courses had the highest level of participation of the facilities selected for study (Table 6). The 12 park districts estimated that over 400,000 rounds of golf were played in 2012. Swimming pools were estimated to have over 300,000 participants in 2012. The Mandan water park, Bismarck amusement park, and the three zoos (Bismarck, Minot[4], and Wahpeton) combined to have over 440,000 visitors in 2012.

[3]Swimming pools were initially included in the facilities surveyed. However, an insufficient number of survey responses was collected, and participant spending associated with swimming pools was not included in the economic analysis (See Hodur and Bangsund 2013 for intercept survey statistics).

[4]Participation for Minot's leagues, activities, events, and facilities was reflective of conditions prior to the 2011 flood.

Table 6. Visitors and Participation at Selected Facilities, City Park Districts, 2012					
City	Campgrounds	Golf Courses	Swimming Pools	Water Park / Amusement Park	Zoos
	- camp nights -	- rounds -	- swimmers -	- visitors -	- visitors -
Bismarck	6,976	86,628	31,604	86,000	147,529
Devils Lake	na	na	12,000	na	na
Dickinson	2,036	24,750	na	na	na
Fargo	5,063	130,000	118,000	na	na
Grand Forks	na	45,000	39,000	na	na
Jamestown	na	21,000	6,512	na	na
Mandan	na	60,000	5,400	69,000	na
Minot[a]	na	18,900	26,148	na	84,597
Valley City	400	10,000	8,700	na	na
Wahpeton	475	na	15,560	na	54,550
West Fargo	na	na	34,000	na	na
Williston	na	4,500	5,000	na	na
Total	14,950	400,778	301,924	155,000	286,676

na = not applicable.

Note: Camper nights were defined as one tent, one camper, or one recreational vehicle per night. Occupancy of the tents, campers or RVs was not considered.

[a] Minot's participation estimates were representative of activity levels prior to the 2011 flood.

Average total in-state spending per participant was estimated for each intercept event, and also estimated from on-line surveys of league participants [see Hodur and Bangsund (2013) for statistics associated with intercept survey data]. Spectators at various youth and adult sporting events were included in the intercept surveys. Their spending was integrated into the estimates of per-participant spending to extrapolate total spending for sporting events. Estimates of spending per participant were multiplied by total participation in the appropriate events or leagues to arrive at estimates of total participant spending. In some cases, when an event type (e.g., youth volleyball tournament) was not directly surveyed, spending for a similar event or an average of spending from several similar event types was used to determine total event spending. Estimates of per-participant spending did not include registration expenses, admission fees, or other enrollment charges for participation in leagues, events, and activities.

Spending associated with participants in park district hosted leagues, sporting events, and community activities was estimated at $67.6 million in 2012 (Table 7). About 40 percent or $27 million of all participant spending came from events and activities that represented a partnership between the park district and another sponsoring agency or group. Around 31 percent of all participant spending came from privately sponsored events and activities, and park district sponsored events and activities represented about 29 percent of total participant spending (Table 7).

Total spending for youth sport leagues, adult sport leagues, youth sports events, adult sports events, and community activities was estimated at $67.6 million in 2012. Adult and youth leagues combined for 38 percent of all participant spending associated with events and activities. Community activities was estimated at $25.9 million and also represented about 38 percent of all spending (Table 8). Adult and youth sports events combined for about $15.9 million or 24 percent of all participant spending.

Intercept surveys were conducted at several types of facilities in various cities over the 2011 to 2012 period. The facilities selected for intercept surveys represented regional attractions (e.g., zoos) or represented other recreational services not adequately captured with sport leagues, sports events, or communities activities (e.g., campgrounds, golf courses).

Table 7. Total Direct Spending in North Dakota Associated with Participation in Leagues, Programs, Events, and Activities, by Sponsorship Category, City Park Districts, 2012

City	Sponsorship of Leagues, Activities, and Events			Total Spending
	Park District	Partnership	Private	
	000s $			
Bismarck	3,088	6,473	1,695	11,255
Devils Lake	1,119	1,924	873	3,916
Dickinson	1,021	534	2,771	4,326
Fargo	6,689	2,249	7,409	16,347
Grand Forks	2,335	3,458	604	6,397
Jamestown	1,000	731	0	1,731
Mandan	1,117	2,710	2,002	5,829
Minot	91	6,909	1,229	8,229
Valley City	443	661	472	1,575
Wahpeton	529	191	201	921
West Fargo	1,450	873	543	2,866
Williston	943	376	2,842	4,161
Total	19,824	27,088	20,641	67,554

Total in-state spending by participants/visitors to campgrounds, zoos, water parks/amusement parks, and golf courses with direct management by city park districts was estimated at $76.6 million in 2012 (Table 9). Spending by golfers, including individuals participating in public tournaments, charity events, and general play, represented 50 percent of all spending among the facility types surveyed. Spending associated with individuals using water parks/amusement parks and visiting zoos was estimated at $25 million, or one-third of spending associated with selected facilities (Table 9).

Table 8. Total Direct Spending in North Dakota, by Event Type, City Park Districts, 2012						
	Park District, Partnership, and Private Sponsorship					
City	Youth League	Adult League	Youth Sport Events[a]	Adult Sport Events[a]	Community Activities[a]	Total Spending
	---------- 000s $ ----------					
Bismarck	2,805	3,150	1,362	1,507	2,431	11,255
Devils Lake	413	308	431	971	1,794	3,916
Dickinson	585	645	238	349	2,510	4,326
Fargo	2,767	4,021	3,889	1,161	4,510	16,347
Grand Forks	1,282	1,299	1,151	864	1,800	6,397
Jamestown	545	481	185	173	347	1,731
Mandan	662	691	81	971	3,424	5,829
Minot	2,061	1,202	895	60	4,011	8,229
Valley City	263	127	284	228	674	1,575
Wahpeton	291	240	282	49	59	921
West Fargo	671	264	487	118	1,326	2,866
Williston	494	470	130	33	3,034	4,161
Total	12,839	12,899	9,414	6,482	25,919	67,554

[a] Does not include vendor spending. Does not include North Dakota High School Activities Association or collegiate events held on park district facilities.

Table 9. Total Direct Spending in North Dakota, Participants at Selected Facilities, City Park Districts, 2012

City	Campgrounds	Golf Courses	Water Park/ Amusement Park	Zoos	Total Selected Facilities
	---------- 000s $ ----------				
Bismarck	1,540	8,488	11,370	7,468	28,866
Devils Lake	na	na	na	na	na
Dickinson	450	2,475	na	na	2,924
Fargo	1,118	12,764	na	na	13,881
Grand Forks	na	4,479	na	na	4,479
Jamestown	na	1,974	na	na	1,974
Mandan	na	4,918	9,122	na	14,040
Minot	na	1,797	na	4,282	6,079
Valley City	88	940	na	na	1,028
Wahpeton	105	na	na	2,761	2,866
West Fargo	na	na	na	na	na
Williston	na	450	na	na	450
Total	3,301	38,283	20,492	14,512	76,588

na=not applicable or data not available.

The combined spending of participants in youth leagues, adult leagues, youth sports events, adult sports events, community activities, and individuals using selected facilities in the 12 park districts was estimated at $144 million in 2012 (Table 10). Spending associated with selected facilities represented about 53 percent of all participant spending.

Table 10. Total Direct Spending in North Dakota, Participants of Programs, Leagues, Events, and Selected Facilities, City Park Districts, 2012

City	Programs, Leagues and Events	Selected Facilities	Total
	---------- 000s $ ----------		
Bismarck	11,255	28,866	40,121
Devils Lake	3,916	na	3,916
Dickinson	4,326	2,924	7,250
Fargo	16,347	13,882	30,229
Grand Forks	6,397	4,479	10,876
Jamestown	1,731	1,974	3,705
Mandan	5,829	14,040	19,869
Minot	8,229	6,079	14,308
Valley City	1,575	1,028	2,603
Wahpeton	921	2,866	3,787
West Fargo	2,866	na	2,866
Williston	4,161	450	4,611
Total	67,553	76,588	144,141

The combined spending of participants in youth sport leagues, adult sport leagues, youth sports events, adult sports events, community activities, and individuals using selected facilities in the 12 park districts was allocated to the *Retail Trade* and *Business and Personal Services* sectors of the North Dakota I-O Model (Table 11).

Table 11. Total Direct Impacts, Participant Spending by Economic Sector, City Park Districts, 2012			
Economic Sector	Programs, Leagues and Events	Selected Facilities	Total
	---------- 000s $ ----------		
Retail Trade	38,530	42,376	80,906
Business and Personal Services	29,023	34,212	63,235
Total	67,553	76,588	144,141

City Park District Operational Expenditures

Expenditures by the 12 park districts for their programs, leagues, special events, community activities, and facilities for 2012 were included in the study. The 12 city park districts collectively had over $79.2 million in expenditures in 2012 (Table 12). To avoid double counting of revenues and expenditures, admission and/or registration fees and expenses associated with participation in leagues, sporting events, and communities activities were excluded from participant spending. Those fees and charges were captured in the expenditures made by city park districts.

Expenditures were allocated and summed by economic sector. Expenditures were greatest in the *Households* (personal income), *Finance, Insurance, and Real Estate*, and *Retail Trade* sectors of the North Dakota economy (Table 12).

Table 12. Expenditures for Operations, City Park Districts, 2012	
City	Operational Expenditures (000s $)
Bismarck	15,094
Devils Lake	1,105
Dickinson	4,262
Fargo	17,901
Grand Forks	12,535
Jamestown	1,977
Mandan	4,419
Minot	6,104
Valley City	1,074
Wahpeton	1,411
West Fargo	5,202
Williston	8,135
Total	79,219

Table 13. Total Direct Impacts from Operational Expenditures, City Park Districts, 2012	
Economic Sector	Expenditures (000s $)
Construction	8,456
Transportation	17
Communications and Public Utilities	5,153
Retail Trade	10,121
Finance, Insurance, and Real Estate	20,107
Business and Personal Services	6,117
Professional and Social Services	870
Households (personal income)	24,397
Government	3,981
Total	79,219

City Park District Combined Operational Expenditures and Participant and Spectator Spending

Expenditures by the 12 park districts for their programs, leagues, special events, community activities, and facilities for 2012 were combined with total participant spending associated with leagues, events, activities, and selected facilities (Table 14). The 12 city park districts collectively had over $223 million in operational and participant expenditures in 2012. Total combined expenditures ranged from over $55 million in Bismarck to $3.6 million in Valley City. When participant spending was combined with operational expenditures, total direct impacts associated with park districts were greatest in the *Retail Trade*, *Business and Personal Services*, and *Households* sectors of the North Dakota economy (Table 15).

Table 14. Total Direct Spending in North Dakota, Participants of Programs, Leagues, Events, Selected Facilities, and Operational Expenditures, City Park Districts, 2012

City	Programs, Leagues and Events	Selected Facilities	Operational Expenditures	Total[a]
	---------- 000s $ ----------			
Bismarck	11,255	28,866	15,094	55,215
Devils Lake	3,916	na	1,105	5,021
Dickinson	4,326	2,924	4,262	11,512
Fargo	16,347	13,882	17,901	42,764
Grand Forks	6,397	4,479	12,535	28,777
Jamestown	1,731	1,974	1,977	5,682
Mandan	5,829	14,040	4,419	24,288
Minot	8,229	6,079	6,104	20,412
Valley City	1,575	1,028	1,074	3,677
Wahpeton	921	2,866	1,411	5,198
West Fargo	2,866	na	5,202	8,068
Williston	4,161	450	8,135	12,746
Total	67,553	76,588	79,219	223,360

[a] Registration, participation, and other fees and charges were counted in park district operational expenditures. Spending by participants and spectators at events, leagues, activities and selected facilities did not include park district fees or charges.

Na=not available or not applicable.

Table15. Total Direct Impacts from Operational Expenditures and Participant Spending, by Economic Sector, City Park Districts, 2012	
Economic Sector	Expenditures (000s $)
Construction	8,456
Transportation	17
Communications and Public Utilities	5,153
Retail Trade	91,027
Finance, Insurance, and Real Estate	20,107
Business and Personal Services	69,352
Professional and Social Services	870
Households (personal income)	24,397
Government	3,981
Total	223,360

North Dakota State Park Visitor Spending

Average annual visitation at North Dakota state parks from 2009 through 2011 was obtained for each state park. North Dakota state parks collectively averaged over 1 million visitors from 2009 through 2011 (Table 16). Visitation at state parks is a combination of those individuals staying overnight in a campground or cabin, and those driving into and out of the park on day visits. Also contained within visitation statistics for the state parks are individuals traveling to a state park to participate in a special event or activity.

Three estimates of visitor spending were used in the study. For those attending only a special event or activity, spending was estimated from intercept surveys of individuals traveling to the park to participate in those events. For overnight guests, spending was estimated from general intercept surveys of park visitors, and represented a per-person, per-trip expenditure. For other visitors not attending a special event or staying overnight in the park, spending was estimated from general intercept surveys, and represented a per-person, per-day expenditure.

Survey data allowed visitors' expenditures, both overnight visitors and day-trip visitors, to be placed on a per-day or per-trip basis. The manner in which visitation is estimated at state parks presents some challenges in estimating visitor spending. Visitation at state parks is based on vehicles entering the park. Therefore, if a person visited the park on Saturday, Sunday, and Monday of a multi-day trip, they would be counted as three visitors. Assigning total trip-related expenses per visitor for all visitors not staying overnight was deemed to overestimate spending of those visitors. Survey data was used to estimate the average per-day, per-person expenditures for use with visitors not remaining in the park overnight.

For visitors staying overnight in the park, total per-person trip expenditures were used. While it is possible that some overnight visitors might leave and return to the park in a single day, and potentially be counted twice, data on the average number of per-day visits for overnight park visitors was not available. Assigning per-person, per-trip expenses to overnight visitors was considered the best option to estimate spending for those visitors.

Due to the manner in which park visitation is estimated, the use of per-day expenses or per-trip expenses could result in overestimation or underestimation of visitor spending. Assigning the entire per-person, per-trip expenditures to visitor statistics would likely overestimate spending for individuals visiting a park on multiple days. In contrast, assigning per-person, per-day expenditures for overnight guests could potentially result in underestimating of visitor spending for those overnight guests.

Total visitation at North Dakota's state parks was estimated at over 1 million visitors annually from 2009 through 2011. Of the 1 million visitors, about 29,500 were visitors attending a special event or activity at the state parks. Of the 1 million visitors, about 199,000 visitors stayed overnight at the state park.

Table 16. Average Annual Visitation at North Dakota State Parks, 2009 through 2011			
State Park	Average Annual Visitation	Visitors Staying Overnight[a]	Participation at Special Events[a]
Fort Stevenson	143,825	26,454	7,825
Fort Abraham Lincoln	119,839	16,456	6,696
Icelandic	114,906	29,963	5,865
Lake Metigoshe	113,695	17,120	1,091
Lake Sakakawea	107,670	27,717	125
Grahams Island	86,999	27,974	200
Turtle River	74,583	11,653	3,500
Lewis and Clark	71,620	17,505	1,100
Indian Hills	60,391	na	na
Sully Creek	50,343	4,979	na
Cross Ranch	49,595	4,433	580
Fort Ransom	39,999	6,046	2,100
Beaver Lake	18,497	4,019	155
Little Missouri	17,160	4,600	120
Total	1,069,122	198,919	29,477

[a] Visitors who stay overnight at the park are contained within the estimate of general visitation. Participation at special events also is contained within estimates of general visitation.

Intercept surveys revealed average spending for travel and trip-related expenses in North Dakota were nearly $69 per visitor per day at North Dakota state parks in 2012 [See Hodur and Bangsund (2013) for survey statistics associated with visitors to North Dakota state parks). Total trip-related spending in North Dakota by visitors to state parks, not including participants of special events, was estimated at nearly $151 (Hodur and Bangsund 2013).

Participants of special events at the state parks generally travel to the park specifically for the event, as opposed to event participation primarily coming from visitors already at the parks for other reasons. Therefore, those attending the special events were treated as a separate category of visitors. Before assigning trip-related expenses to the number of state park visitors, attendance estimates for participants of special events at the state parks were subtracted from general visitation

statistics. Spending for participants of special events was estimated separately to avoid overestimating visitor spending.

Applying the average spending per-visitor, per-day to average annual visitation statistics (less participation at special events and less those visitors staying overnight) indicated that in-state spending was $58 million per year (Table 17). Applying average in-state spending for participants of special events at North Dakota's state parks indicated that participant spending averaged around $1.4 million annually from 2009 through 2011 (Table 17). In-state spending for overnight guests was estimated to average $30 million annually from 2009 through 2011. Expenditures for day visitors, overnight visitors, and visitors at special events were allocated to economic sectors of the North Dakota I-O Model (Table 3). Combined spending associated with general visitation and participation at special events at North Dakota's state parks was estimated at $89 million per year from 2009 through 2011 (Table 18).

Table 17. Average Annual Trip-Related Spending of Visitors to State Parks in North Dakota, 2009 through 2011

State Park	Average Annual Visitor Spending[a]	Average Annual Spending for Overnight Visitors[a]	Participant Spending at Special Events[a]	Total Spending
	---------- 000s $ ----------			
Fort Stevenson	7,551.0	3,991.7	368.4	11,911
Fort Abraham Lincoln	6,664.7	2,483.0	315.2	9,463
Icelandic	5,450.8	4,521.1	276.1	10,248
Lake Metigoshe	6,581.7	2,583.3	51.3	9,216
Lake Sakakawea	5,502.6	4,182.2	5.9	9,691
Grahams Island	4,054.8	4,221.0	9.4	8,285
Turtle River	4,096.5	1,758.3	164.9	6,020
Lewis and Clark	3,646.0	2,641.4	57.4	6,345
Indian Hills	4,162.8	na	na	4,163
Sully Creek	3,127.0	751.2	na	3,878
Cross Ranch	3,073.0	668.9	27.3	3,769
Fort Ransom	2,195.7	912.2	98.9	3,207
Beaver Lake	987.3	606.5	7.3	1,601
Little Missouri	857.5	694.1	5.6	1,557
Total	57,951.4	30,014.9	1,387.7	89,354

[a] Spending for overnight visitors and spending by participants at special events would be in addition to spending by general visitors since participants at special events and visitors staying overnight were removed from general visitation statistics when estimating spending for annual visitation.

Table 18. Total Direct Impacts, Average Annual Visitor Spending and Participant Spending Associated with Special Events, North Dakota State Parks, 2009 through 2011				
Economic Sector	General Visitation[a]	Overnight Visitors[a]	Participation at Special Events[a]	Total
	---------- 000s $ ----------			
Retail Trade	40,262	21,276	952	62,490
Business and Personal Services	17,689	8,739	436	26,864
Total	57,951	30,015	1,388	89,354

[a] Spending for overnight visitors and spending by participants at special events would be in addition to spending by general visitors since participants at special events and visitors staying overnight were removed from general visitation statistics when estimating spending for annual visitation.

North Dakota Parks and Recreation Department Operational Expenditures

Expenditures by the NDPRD for maintenance and operations for 13 state parks, 8 recreation areas, and 7 nature preserves for 2012 were included in the study. Actual expenditures were allocated and summed by economic sector.

The NDPRD had $9.9 million in expenditures in 2012 (Table 19). Expenditures were greatest in the *Households* (personal income), *Finance, Insurance, and Real Estate*, and *Retail Trade* sectors of the North Dakota economy.

Table 19. Total Direct Impacts from Expenditures for Maintenance, Operations, and Administration, North Dakota Parks and Recreation Department, 2012	
Economic Sector	Expenditures (000s $)
Construction	326
Communications and Public Utilities	433
Retail Trade	1,193
Finance, Insurance, and Real Estate	2,026
Business and Personal Services	1,686
Professional and Social Services	589
Households (personal income)	3,606
Government	46
Total	9,905

Total Direct Impacts

Total direct impacts include participant spending for city park district leagues, programs, events, and facilities, participant and visitor spending at North Dakota state parks and state park special events, operational expenditures of city park districts, and operational expenditures of the NDPRD (Table 20). Total direct impacts were estimated at $323 million in 2012.

Table 20. Total Direct Impacts, Participation Spending and Operational Expenditures, City Park Districts and North Dakota Parks and Recreation Department, 2012

Economic Sector	Participant Spending: Park District Programs, Leagues, Events, & Facilities	Participant Spending: State Park Visitors and Special Events	Operational Expenditures: Park Districts	Operational Expenditures: ND Parks and Recreation Department	Total Direct Impacts
	---------- 000s $ ----------				
Construction			8,456	326	8,782
Transportation			17	0	17
Communications and Public Utilities			5,153	433	5,586
Retail Trade	80,906	62,490	10,121	1,193	154,710
Finance, Insurance, and Real Estate			20,107	2,026	22,133
Business and Personal Services	63,235	26,864	6,117	1,686	97,902
Professional and Social Services			870	589	1,459
Households (personal income)			24,397	3,606	28,003
Government			3,981	46	4,027
Total	144,141	89,354	79,219	9,905	322,619

Secondary Impacts

The secondary economic effects of the 12 park districts and the NDPRD were estimated using the North Dakota I-O Model. The North Dakota I-O Model traces linkages among sectors of an economy and calculates total business activity resulting from a direct impact in a basic sector (Coon et al. 1985). The model embodies interdependence coefficients or multipliers that measure the level of gross business volume (gross receipts) generated in each sector of the regional economy from an additional dollar of sales to final demand in a given sector. The model was developed from primary data from North Dakota firms and households and is closed with respect to households (meaning that measurements of economy-wide personal income are included within the model). The input-output model applies the expenditures from the park districts, the NDPRD, and participant and visitor spending to these interdependence coefficients. Resulting levels of business activity were used to estimate secondary (indirect and induced) employment, based on historic relationships.

This process of spending and respending can be explained by using an example. A local softball player purchases equipment at the local sporting goods store (*Retail Trade* sector); the store uses part of that dollar to pay for new inventory of equipment (*Transportation* and *Wholesale Trade* sectors), part of the sale is used to pay the store employee (*Households* sector) who stocked or sold the equipment, and part to pay operating expenses for the store (*Communications and Public Utilities*, *Business and Personal Services*, *Finance, Insurance, and Real Estate*); the store clerk who was paid by the sporting goods store uses part of their earnings to initiate another round of spending as they, in turn, place a portion of their earnings in a local bank (*Finance, Insurance, and Real Estate* sector) and use their earnings to purchase durable and consumable items in the regional economy (*Retail Trade* and *Business and Personal Services* sectors).

City Park District Participant and Spectator Spending

The combined spending of participants in youth sport leagues, adult sport leagues, youth sports events, adult sports events, community activities, and individuals using selected facilities in the 12 park districts was allocated to the *Retail Trade* and *Business and Personal Services* sectors of the ND I-O Model (Table 21). Total participant spending was estimated at $144 million, which was estimated to generate nearly $196 million in secondary economic effects (Table 21).

City Park District Operational Expenditures

Collectively, the study's 12 park districts had over $79 million in direct expenditures in 2012. Those expenditures were allocated to various sectors of the North Dakota I-O Model. Total direct impacts of $79 million generated about $150 million in secondary business activity. The secondary economic impacts were greatest in the *Households* ($56 million) and *Retail Trade* Sectors ($44 million).

North Dakota State Park Visitor Spending

Total direct impacts of $89 million generated about $114 million in secondary business activity (Table 21). Secondary economic impacts were greatest in the *Households* ($44 million) and *Retail Trade* Sectors ($29 million).

North Dakota Parks and Recreation Department Operational Expenditures

Total direct impacts of $9.9 million generated about $19.8 million in secondary business activity (Table 21). The secondary economic impacts were greatest in the Households ($7.3 million) and Retail Trade Sectors ($5.9 million).

Total Secondary Impacts

Total direct impacts of $322.6 million associated with participant and visitor spending and operational expenditures for city park districts and the NDPRD were estimated to generate about $480 million in secondary economic impacts. Secondary economic impacts were greatest in the *Households* (economy-wide personal income) sector ($186 million) and *Retail Trade* sector ($129 million). For each $1 dollar of direct impacts, an additional $1.49 was generated in secondary business activity.

Table 21. Total Secondary Economic Impacts, Participation Spending and Operational Expenditures, City Park Districts and North Dakota Parks and Recreation Department, 2012

Economic Sector	Participant Spending: Park District Programs, Leagues, Events, & Facilities	Participant Spending: State Park Visitors and Special Events	Operational Expenditures: Park Districts	Operational Expenditures: ND Parks and Recreation Department	Total Secondary Impacts
	000s $				
Construction	6,259	3,635	5,202	699	15,795
Transportation	1,588	966	813	106	3,473
Communications and Public Utilities	11,261	6,271	7,575	1,030	26,137
Retail Trade	50,735	29,241	43,584	5,858	129,418
Finance, Insurance, and Real Estate	11,523	6,518	9,624	1,305	28,970
Business and Personal Services	4,787	2,580	3,985	534	11,886
Professional and Social Services	5,374	3,060	5,321	732	14,487
Households (personal income)	77,913	44,443	56,273	7,272	185,901
Government	8,083	4,541	6,694	897	20,215
Other Sectors[a]	18,771	12,703	10,511	1,337	43,322
Total	196,294	113,958	149,582	19,770	479,604

[a] Includes agriculture, mining, and manufacturing sectors.

Employment

Both the NDPRD and the individual city park districts are responsible for creating and supporting direct and secondary employment. Direct employment is a measure of the number of full-time jobs within an industry. Secondary jobs are an estimate of employment outside of an industry, but employment that is created from the industry's economy-wide business activity.

Direct Employment

Employment associated with the city park districts includes employees that have year-round jobs and those that have seasonal positions (Table 22). Year-round positions also represent individuals working in full-time positions and those with part-time positions. Both year-round positions, both full-time and part-time, and seasonal employees were estimated on a full-time equivalent basis (FTE). The 12 city park districts had total direct employment of 922.5 FTE positions in 2012. The total number of paid employees was estimated at 4,473 individuals. In additional to paid employment, the city park districts rely on volunteer labor for many of their programs, events, and functions. Total volunteer labor for the 12 city park districts was estimated at 4,058 individuals providing about 44,800 hours of assistance in 2012 (Table 22).

The NDPRD had 54 year-round, full-time positions in 2012. An additional 52 FTE positions were occupied by year-round, part-time, and seasonal workers (Table 22). The Department had total direct employment of 106 FTE jobs in 2012. The NDPRD relies heavily on volunteer workers as 1,406 individuals contributed over 26,000 hours of service to the Department’s facilities, events, and programs in 2012.

Total direct employment associated with the 12 park districts and the NDPRD was estimated at 1,028.5 full-time equivalent positions. Nearly 70 percent of all direct employment was represented by part-time and seasonal employment.

Table 22. Total Direct Employment, City Park Districts and North Dakota Parks and Recreation Department, 2012							
	Year Round Employment			Seasonal Employment		Volunteer Employment	
Park District	Full Time Positions	Part Time		Number of People	FTE[a]	Number of People	Hours
		People	FTE[a]				
Bismarck	52	40	20.0	839	104	350	14,316
Devils Lake	6	3	2.0	100	7	15	300
Dickinson	27	103	25.7	263	14	103	1,003
Fargo	74	4	2.9	978	104	175	3,000
Grand Forks	54	82	12.0	490	91	200	4,000
Jamestown	13	9	2.0	107	9	9	90
Mandan	20	0	0.0	325	94	100	2,500
Minot[b]	39	13	4.0	140	25	2,140	6,400
Valley City	7	1	0.5	170	12	90	360
Wahpeton	8	4	3.0	121	20	316	4,965
West Fargo	16	4	2.0	170	12	410	3,342
Williston	17	4	2.0	170	22	150	4,500
Total	333	267	76.0	3,873	513	4,058	44,776
ND Parks and Recreation Department	54	5	3	150	49	1,406	26,210
Grand Total	387	272	79	4,023	562	5,464	70,986

[a] Full-time equivalent.
[b] Extra volunteer workers were related to the flood in 2011.

Secondary Employment

The North Dakota I-O Model also estimates secondary employment. Employment estimates represent the number of full-time jobs generated as a result of the secondary economic activity. These are jobs supported by the business activity created by the circulation of the direct impacts, and represent jobs outside of the direct operations of city park districts and the NDPRD. Secondary business activity resulting from participant spending and operational spending of park districts and NDPRD was estimated to sustain 1,417 jobs in the North Dakota economy (Table 23).

Table 23. Total Secondary Employment, City Park Districts and North Dakota Parks and Recreation Department, 2012

	Participant Spending		Operational Expenditures		
Type	Park District Programs, Leagues, Events, & Facilities	State Park Visitors and Special Events	Park Districts	ND Parks and Recreation Department	Total Secondary Employment
Secondary Employment (FTE)	582	343	445	47	1,417

State Tax Collections

Governmental revenues are another important measure of the economic impact of an industry on an economy. State government collections from personal income and sales and use taxes were estimated based on the secondary economic activity generated by operations and participant spending associated with city park district activities, visitor spending associated with state parks, and operations of the NDPRD. Secondary economic impacts in the *Retail Trade* sector were used to estimate revenue from sales and use taxes. Economic activity in the *Households* sector (which represents economy-wide personal income) was used to estimate personal income tax collections. Secondary economic activity in all sectors less *Agriculture, Households,* and *Government* were used to estimate corporate income tax collections. Total collections of sales and use, personal income, and corporate income taxes arising from secondary economic activity were estimated at $9.2 million (Table 24).

Table 24. Estimated State Tax Collections, North Dakota Parks and Recreation Department and City Park Districts, 2012

	Operational Expenditures		Participant and Visitor Spending		
State Tax	City Park Districts	ND Parks & Recreation Department	Park District Activities	State Parks and Programs	Totals
	---------- 000s $ ----------				
Sales and Use	2,017.9	271.2	2,349.0	1,353.9	5,992.0
Personal Income	731.5	94.5	1,012.9	577.8	2,416.6
Corporate Income	248.1	33.3	301.2	173.6	756.2
Total	2,997.6	399.1	3,663.1	2,105.2	9,165.0

Total Economic Impacts

The total economic effect of an industry on a local, state, or regional economy can be measured by estimating the total amount of business activity generated by that industry. Total business activity, sometimes called gross business volume, is generally defined as a combination of direct and secondary economic impacts. Direct impacts are those changes in output, employment, or income that represent the initial or first-round effects of a project, program, policy, or activity. Secondary impacts (sometimes further categorized into indirect and induced effects) result from subsequent rounds of spending and respending within an economy. This process of spending and respending is sometimes termed the multiplier process, and the resultant secondary effects are sometimes referred to as multiplier effects. Further, additional economic measures, such as personal income, tax revenue, and employment, are often used to measure the relative size of an industry.

Total direct impacts, which include participant spending and operational expenditures, for the 12 city park districts were estimated at $223 million. Secondary economic impacts were estimated at $346 million. Total (direct and secondary) economic impacts for the park districts were estimated at $569 million (Table 25).

Total direct impacts, which included visitor spending and operational expenditures, for the NDPRD were estimated at $99 million. Secondary economic effects were estimated at $134 million. Total (direct and secondary) economic impacts for the NDPRD were estimated at $233 million (Table 25).

The 12 city park districts and the NDPRD were responsible for a combined $322.6 million in direct impacts in North Dakota. The combined secondary economic impacts for the park districts and NDPRD were estimated at $480 million. The total economic effect of participant spending, visitor spending, and operational expenditures associated with the study's 12 city park districts and the NDPRD was estimated to be $802 million in 2012 (Table 25).

Table 25. Total Economic Impacts, Participation Spending and Operational Expenditures, City Park Districts and North Dakota Parks and Recreation Department, 2012

Economic Sector	Participant Spending: Park District Programs, Leagues, Events, & Facilities	Participant Spending: State Park Visitors and Special Events	Operational Expenditures: Park Districts	Operational Expenditures: ND Parks and Recreation Department	Total Impacts
	000s $				
Construction	6,259	3,635	13,658	1,025	24,577
Transportation	1,588	966	830	106	3,490
Communications and Public Utilities	11,261	6,271	12,728	1,463	31,723
Retail Trade	131,641	91,731	53,705	7,051	284,128
Finance, Insurance, and Real Estate	11,523	6,518	29,731	3,331	51,103
Business and Personal Services	68,022	29,444	10,102	2,220	109,788
Professional and Social Services	5,374	3,060	6,191	1,321	15,946
Households (personal income)	77,913	44,443	80,670	10,878	213,904
Government	8,083	4,541	10,675	943	24,242
Other Sectors[a]	18,771	8,411	10,511	1,337	43,322
Total	340,435	203,312	228,801	29,675	802,223

[a] Includes agriculture, mining, and manufacturing sectors.

SUMMARY and CONCLUSIONS

The study examined the economic effects of public park and recreation operations in Bismarck, Devils Lake, Dickinson, Grand Forks, Fargo, Jamestown, Mandan, Minot, Valley City, Wahpeton, West Fargo, Williston, and the North Dakota Parks and Recreation Department. Information on the number and type of leagues, programs, sports events, facilities, and community activities were obtained for each of the 12 park districts and for special events held at North Dakota's 13 state parks.

The economic assessment of park district programs, events, and facilities and visitation at the North Dakota's state parks required estimating spending by participants, spectators, visitors, and vendors over a range of activities, locations, and dates throughout the year. A combination of intercept surveys and on-line survey instruments were used to solicit information on local and in-state spending by participants and visitors. Survey instruments also gathered information on participant characteristics and motivation for participation. Implementation of the intercept surveys was accomplished using park district and agency personnel, event sponsors or organizing members, and general volunteers.

Participation in park district hosted leagues, sporting events, and community activities was estimated at 505,000 participants in 2012. Estimates of spending per participant were multiplied by total participation in the appropriate events, leagues, and community activities to arrive at estimates of total participant spending. Total in-state spending for youth sport leagues, adult sport leagues, youth sports events, adult sports events, and community activities approached $67.6 million in 2012. Total in-state spending by participants/visitors to campgrounds, zoos, water parks/amusement parks, and golf courses with direct management by city park districts was estimated at $76.6 million in 2012. The combined spending of participants in leagues, sports events, and community activities, and spending associated with individuals using selected facilities in the 12 park districts was estimated at $144 million in 2012. The 12 city park districts collectively had over $79 million in operational expenditures in 2012. The city park districts had combined participant spending and operational expenditures of $223 million in 2012.

Expenditures by the North Dakota Parks and Recreation Department for maintenance and operations for 13 state parks, 8 recreation areas, and 7 nature preserves for 2012 were estimated at $9.9 million. Expenditures for both general visitation and participation at special events at North Dakota's state parks were $89 million per year from 2009 through 2011. Combined expenditures for visitor spending at state parks and operational expenses were estimated at $99 million in 2012.

Total direct impacts associated with the city park districts and the NDPRD were estimated at $322.6 million in 2012. Of the $322.6 million in direct impacts, 72 percent was generated from participant and visitor spending in North Dakota.

Estimates of participant and visitor spending, along with operational expenditures, were allocated to various economic sectors the North Dakota I-O Model. Total expenditures in various

economic sectors were then applied to the interdependence coefficients of the model to arrive at estimates of gross business volume (i.e., gross receipts) by economic sector.

Collectively, the study's 12 park districts had over $223 million in direct expenditures in 2012. Total direct impacts of $223 million generated about $346 million in secondary business activity. Total direct impacts of $99 million associated with the NDPRD generated another $134 million in secondary business activity. Total secondary business activity was estimated at about $480 million in 2012.

Total economic impacts (combined direct and secondary impacts) for the city park districts were estimated at $569 million. The NDPRD was estimated to have a total economic effect of $233 million in 2012. The overall gross business volume (combination of direct and secondary economic impacts) was estimated at $802 million.

Total direct employment for the park districts and the NDPRD was estimated at 1,028.5 full-time equivalent positions. About 62 percent of all direct employment was represented by part-time and seasonal employment. Secondary business activity resulting from participant spending and operational spending of park districts and the NDPRD was estimated to sustain 1,417 jobs in the North Dakota economy.

Governmental revenues are another important measure of the economic impact of an industry on an economy. State government collections from personal income and sales and use taxes were estimated based on the secondary economic activity generated by operations and participant spending associated with city park district activities, visitor spending associated with state parks, and operations of the NDPRD. Total collections of sales and use, personal income, and corporate income taxes arising from secondary economic activity were estimated at $9.2 million.

The study represents the first economic assessment of a broad array of park district programs, events, activities, and facilities. While the study encompassed a reasonably comprehensive assessment of organized programs, activities, and participation at selected facilities, the study had several limitations. Due to study resources, the analysis omitted some events held on park district facilities (e.g., North Dakota High School Activities Association events), omitted vendor spending at events and activities, omitted participation and spending at some facilities (e.g., swimming pools), and did not include participation and associated spending with open-access facilities in the study communities. Despite these limitations, the study gathered data on participation and spending across a wide array of park district offerings in the state. The study also provided the first assessment of visitor spending at state parks that included specific adjustments for day visitors, overnight guests, and participants at special events held at state parks.

Park districts involvement in hosting events and activities in the study communities represented a broad spectrum of administration. Park districts across the 12 study cities had a large number of events and activities that involved partnering with other entities or assisting private associations by providing facilities for use in their events and programs. These partnerships and

cooperative arrangements with private groups and associations clearly show the willingness and ability to leverage public resources to support the provision of leagues, sports events, programs, and activities in the study communities. These partnerships and cooperative arrangements accentuate the economic effects associated with public recreational facilities.

Results from this study clearly show a substantial amount of participation and personal spending is associated with individuals and families partaking in the many programs, leagues, events, activities, and facilities of the park districts in North Dakota. The amount of spending is reflective of the value of park districts' offerings among its users. When park district impacts are combined with those of the North Dakota Parks and Recreation Department, it is clear that recreational effects stem beyond those only participating or visiting various attractions, and represent an important part of the regional and state economies.

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APPENDIX A

Representative Intercept Questionnaire

Economic Impact Questionnaire
ND State Parks

1. What is today's date _____/_____/_____ 2. What is the zip code at your home address? _____

3. How many days will you spend at this state park on this trip? _____ days

4. Do you intend to stay overnight in this park or elsewhere near this park on this trip?
❑ Yes ❑ No ❑ Not applicable, I live in the local area. Please go to Q5.

4. If yes, how many nights? _____nights 4b. Which of these lodging options apply:
❑ overnight in the park ❑ with friends or family ❑ hotel, motel, or B&B ❑ other campground ❑ other

5. How many people (including yourself) are in your immediate group? _____ people
This is the number of people for whom you will pay the bill on this trip, e.g. your family or close friends. If spending is just for you, enter 1.

6. Thinking about your group, how much do you plan to spend on each of the following in conjunction with your visit to this park? We know this is a difficult question, but your responses are a critical component of our economic analysis.

Type of Expenditure for This Trip	**Spending at or near the park**	**Spending elsewhere in ND**
Admission or gate fees, parking, participation or registration fees	$	$
Food and drink (restaurants, bars, concessions)	$	$
Groceries	$	$
Retail shopping (clothes, souvenirs, gifts, personal items)	$	$
Lodging (hotels, motels, camping fees, B&B)	$	$
Travel expenses (gas, oil, repairs) for personal vehicle	$	$
Other travel expenses (rental car, taxi, airfare, train, bus)	$	$
Equipment and supplies (fishing tackle, camping gear, bait, batteries, etc.)	$	$
Recreation vehicle operation expenses (boat, jet-ski, snowmobile, other)	$	$
Equipment rental (canoes, bikes, boat, skis, snowshoes, etc.)	$	$
Entertainment (local attractions, museums, festivals, golfing, sports)	$	$
Other expenses (please specify) _____	$	$

7. Have you visited this state park before? ❑ Yes ❑ No If yes, how many times in the last year? _____

If you live in this community or the immediate surrounding area, please stop here and return your questionnaire.

If you do not live in the immediate area or neighboring community please continue.

8. How important was this park in your decision to travel to this area?

0 1 2 3 4 5 6 7 8 9 10

No influence Half Only reason

9. Does this trip replace any other previously planned trip to this park or surrounding? ❑ Yes ❑ No

10. What other activities have you or do you plan to do while visiting this park?

❑ Visit friends and relatives	❑ Interpretive activity	❑ Business meeting	❑ Shopping	❑ Camping
❑ Visit local attractions	❑ Birding, wildlife viewing, nature study	❑ Dining / nightlife	❑ Sightseeing	❑ Horseback ride
❑ Swimming / water sports	❑ Biking or hiking	❑ Casinos / gambling	❑ Hunting / fishing	❑ Picnicking
❑ Park event	❑ Other (please specify) _____			

NDRPA. . . . advancing parks and recreation for quality of life in North Dakota.

Thank you for taking the time to complete this questionnaire!
If you have any questions call North Dakota Recreation and Park Association (701) 355-4458.

APPENDIX B

Participation in Leagues, Sport Events, and Community Activities,
by Park District, by Sponsorship Category, 2012

Appendix Table B1. Participation in Youth Leagues, by Sponsorship, 2012				
	Sponsorship Category			Total Youth Leagues
City	Park District	Partnership	Private	
Bismarck	17,337	16,189	963	34,489
Devils Lake	1,840	220	60	2,120
Dickinson	1,735	90	835	2,660
Fargo	9,045	165	4,560	13,770
Grand Forks	3,037	2,190	0	5,227
Jamestown	3,545	0	0	3,545
Mandan	2,810	850	0	3,660
Minot	240	12,448	0	12,688
Valley City	1,187	447	160	1,794
Wahpeton	1,180	375	0	1,555
West Fargo	3,254	1,113	100	4,467
Williston	1,780	0	560	2,340
Total	46,990	34,087	7,238	88,315

Appendix Table B2. Participation in Adult Leagues, by Sponsorship, 2012				
City	Sponsorship Category			Total Adult Leagues
	Park District	Partnership	Private	
Bismarck	10,089	4,402	0	14,491
Devils Lake	1,290	0	0	1,250
Dickinson	2,398	0	0	2,398
Fargo	11,305	1,380	4,160	16,845
Grand Forks	2,510	2,050	0	4,560
Jamestown	425	1,170	0	1,595
Mandan	2,184	80	0	2,264
Minot	0	4,015	0	4,015
Valley City	433	60	20	513
Wahpeton	855	50	50	955
West Fargo	22	680	0	702
Williston	1,906	0	0	1,906
Total	33,417	13,887	4,230	51,534

Appendix Table B3. Participation in Youth Sport Events, by Sponsorship, 2012				
	Sponsorship Category			Total Youth Sport Events
City	Park District	Partnership	Private	
Bismarck	95	3,968	3,153	7,216
Devils Lake	1,400	0	0	1,400
Dickinson	0	2,080	0	2,080
Fargo	1,060	750	11,035	12,845
Grand Forks	60	5,995	0	6,055
Jamestown	0	700	0	700
Mandan	360	0	0	360
Minot	0	2,153	160	2,313
Valley City	1,565	945	40	2,550
Wahpeton	810	50	450	1,310
West Fargo	0	0	1,305	1,305
Williston	589	0	0	589
Total	5,939	16,641	16,143	38,723

Appendix Table B4. Participation in Adult Sport Events, by Sponsorship, 2012				
City	Sponsorship Category			Total Adult Sport Events
	Park District	Partnership	Private	
Bismarck	310	9,154	1,857	11,321
Devils Lake	850	1,650	4,000	6,500
Dickinson	1,343	1,050	0	2,393
Fargo	2,160	2,545	2,800	7,505
Grand Forks	1,350	3,750	1,800	6,900
Jamestown	220	925	0	1,145
Mandan	0	4,645	1,092	5,737
Minot	0	300	0	300
Valley City	0	1,200	725	1,925
Wahpeton	300	0	0	300
West Fargo	84	525	0	609
Williston	20	0	300	320
Total	6,637	25,744	12,574	44,955

Appendix Table B5. Participation in Community Events and Activities, by Sponsorship, 2012				
	Sponsorship Category			Total Community Events and Activities
City	Park District	Partnership	Private	
Bismarck	1,052	24,326	5,250	30,628
Devils Lake	0	9,850	1,500	11,350
Dickinson	0	1,500	12,500	14,000
Fargo	51,973	18,653	0	70,626
Grand Forks	19,600	5,100	15,000	39,700
Jamestown	4,550	0	0	4,550
Mandan	800	8,217	9,690	18,707
Minot	1,000	22,100	7,000	30,100
Valley City	1,100	3,800	6,320	11,220
Wahpeton	0	1,500	0	1,500
West Fargo	17,540	6,074	1,200	24,814
Williston	2,200	4,220	18,050	24,470
Total	99,815	105,340	76,510	281,665

APPENDIX C

Listing of Recreational Facilities Owned and Operated by City Park Districts

Facilities	Bismarck	Devils Lake	Dickinson	Grand Forks	Fargo	Jamestown	Mandan	Minot	Valley City	Wahpeton	West Fargo	Williston
Amphitheatre			X					X				X
Archery Range	X		X		X	X	X		X	X		
Baseball Field	X	X	X	X	X	X	X	X	X	X	X	X
Basketball Court	X	X	X	X	X	X	X	X	X	X	X	X
Biking trail	X	X	X	X	X	X	X	X	X	X	X	X
Boat ramp	X	X	X	X	X				X	X		
Campground	X		X		X				X	X		
Community Events Center/Arena								X		X	X	X
Community Garden	X			X	X		X	X		X		
Cross Country Ski Trails	X		X	X	X	X	X	X		X	X	
Curling facilities	X			X	X							
Dirt Race Track	X						X				X	
Disc Golf Course	X	x	X	X	X	X	X	X	X	X	X	X
Fitness Center	X		X	X	X		X		X		X	X
Golf Course	X		X	X	X	X	X	X	X	X		X
Hiking/nature trails	X	x	X	X		X	X	X			X	X
Historic Park/Site	X				X							
Horse Arena	X						X					
Horseback Riding Trails	X		X									
Horseshoe pits	X	x	X	X	X	X	X	X	X	X	X	X
Indoor Driving Range	X		X									
Indoor Hockey/Ice Arena	X	X	X	X	X		X	X		X	X	X
Indoor Playground Party Room	X	x	X	X								
Indoor Shooting Range	X											
Indoor Soccer field	X				X							
Mini-golf Course	X						X	X				
Motocross Course												
Mountain Biking Trails	X		X			X	X	X				
Multi-use trail	X	X	X	X	X	X	X	X	X	X	X	X
Museum	X									X		
Open space park	X	X	X	X	X	X	X	X	X	X	X	X
Outdoor Hockey/Skating/Broomball	X		X	X	X			X		X	X	X
Outdoor Shooting Range	X									X		X
Outdoor Skating Rinks	X	X	X	X	X			X	X	X	X	X
Pet park	X	X	X	X	X	X	X	X	X			X
Picnic area	X	X	X	X	X	X	X	X	X	X	X	X
Playgrounds	X	X	X	X	X	X	X	X	X	X	X	X
Racquetball Courts	X		X	X	X					X		X
Skate Park (inline, skateboard)	X	X	X	X	X	X	X	X	X	X	X	X
Ski hill							X					
Sledding/tubing Hill	X			X	X	X				X	X	X
Soccer Field	X	X	X	X	X	X	X	X		X	X	
Softball Field	X	X	X	X	X	X	X	X	X	X	X	X
Swim Beach	X	X	X									X
Swimming pool	X	X	X	X	X	X	X	X	X	X	X	X
Tennis Court	X	X	X	X	X	X	X	X	X	X	X	X
Volleyball Court	X	X	X	X	X	X	X	X	X	X	X	X
Water slide	X	X	X	X	X		X	X	X	X		X