

Possible Economic Benefits of Rockbottom Dam Whitewater Park in Binghamton, NY

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Abstract

The purpose of this report is to provide a detailed estimation of the economic benefit resulting from Rockbottom Dam Whitewater Park. As a whole, the outdoor industry has grown significantly in recent years. However, there has not been much change, either growth or decline, in whitewater kayaking as recorded from 2001 through 2005. This suggests that the industry may not be growing, but is steady and therefore can easily be estimated. Based on the national average that 1% of the eligible population participates in whitewater kayaking, the estimated population draw of Rockbottom Dam Whitewater Park is 38,240 people per season. Conservatively, once economic multipliers are considered, this results in \$2,868,000 in revenues per season. Based on this and the estimated cost of renovation of the Rockbottom Dam alone, if the City of Binghamton plans to renovate the Rockbottom Dam, it is clearly worth spending the additional money to construct Rockbottom Dam Whitewater Park. Economically, the long-term benefits grossly outweigh the costs. Additionally, a whitewater park would provide an excellent source of clean, healthy recreation.

Background

The research contained in this report is based around the proposal of construction of a whitewater park to replace Rockbottom Dam. It is known that the dam has not been engineered properly; for example, recently a child died from drowning due to the undercurrent that currently exists. Furthermore, fish and other wildlife cannot swim upstream as a result of the water flow over the dam. The City of Binghamton has expressed interest in modifying the dam to make it much safer for both people and wildlife. Two possible plans exist to accomplish this goal: the first is a modification of the dam to make it safe, the second is the modification of the dam along with the construction of a whitewater park. One of the limiting factors and primary consideration, is the economic feasibility of the project. The construction of a whitewater park will require additional funds (several million dollars). This report considers the justification of these funds by providing an estimate of the economic benefit resulting from Rockbottom Dam Whitewater Park.

The Outdoor Industry

In order to provide a background for this report, the outdoor industry as a whole must be taken into account. According to the Outdoor Industry Association, participants in the outdoor industry are based on the population of Americans sixteen years or older.

The outdoor industry as a whole has been growing in recent years. In 2004, 159 million people, 71.6% of the eligible population, participated in an outdoor activity at least once¹. Comparatively, in 2005, 161.6 million people, 72.1%, participated in at least one outdoor activity. Furthermore, the variety of outdoor activities has increased for individuals. In

2005, 62.6% of the eligible population participated in one to three different outdoor activities².

In economic terms, the outdoor recreation industry contributes \$730 billion to the U.S. economy, provides almost 6.5 million jobs, and generates \$49 billion in tax revenue³. In the Middle Atlantic Region (New York, Pennsylvania, New Jersey), \$38.3 billion is generated from the industry, 357,000 jobs are supported, and nearly \$5.5 billion contributes to tax revenue. In the State of New York alone, the outdoor industry provides 130,000 jobs, generates \$800 million in tax revenue, and produces \$11.3 billion annually in retail sales and services. In comparison, the entire gross product for the Broome-Tioga region is \$10 billion⁴.

The Paddling Industry

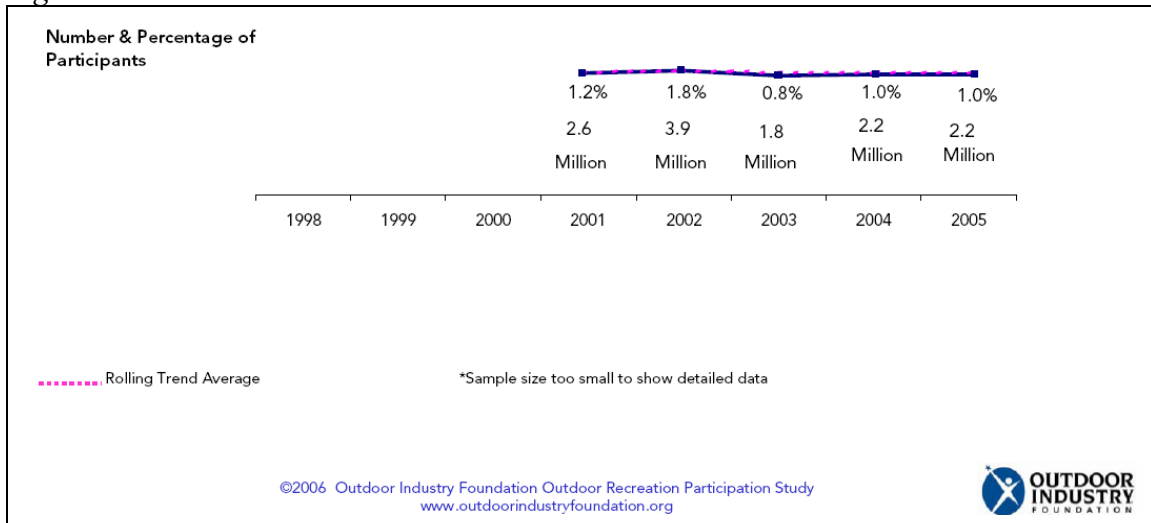
Throughout the nation, 24 million people actively participated in paddling in 2005³. The paddling industry comprises whitewater, sea, and recreational kayaking, rafting, and canoeing. 3.4 million of these 24 million participants lived in New York, Pennsylvania and New Jersey, approximately 11% of these states eligible populations³. In the State of New York alone, 1.8 million, or 12% of the eligible population, participated in the paddling industry.

Nationally, the paddling industry contributes \$4.8 billion to state and federal governments³. In the Middle Atlantic region, the industry contributes \$2.45 billion including \$321 million in state and federal taxes.

The Whitewater Kayaking Industry

The Outdoor Industry Foundation has tracked participation of whitewater kayaking since 2001 and the most recent data available was through 2005. Whitewater kayaking comprises 1% of the population of eligible outdoor participants³. This has not changed significantly since participatory research began. The trend of the whitewater kayak industry is shown in *Figure 1*:

Figure 1



As shown, there has not been much change, either growth or decline, in whitewater kayaking over the course of these five years. Therefore, it is reasonable to estimate that any given whitewater park will attract 1% of the eligible population in the area. Within this population, the average number of whitewater kayak outings is three times per year².

Whitewater Kayak Park in Binghamton

Conservatively, it is expected that a whitewater park in Binghamton would attract participants from 100 miles away. This estimate is based on research surveys done by whitewater parks including New Wave Paddle Sports, Texas. The reasoning behind this is that 100 miles provides participants with the option of coming to the park for a single day without requiring an overnight stay. This is not to say that there aren't participants who will travel several hundred miles and make a vacation out of it. However, it is difficult to estimate what percentage of the population will travel such distances. Therefore, this report limits the population draw to counties within 100 miles of Binghamton, NY. *Figure 2* lists mileage reference to several cities to provide a sense of distance from Binghamton. It is important to note that the miles in *Figure 2* are approximate based on driving distance and are not linearly derived.

Figure 2:

City	Miles
Albany	130
Allentown	115
Buffalo	210
Harrisburg	155
New York	155
Philadelphia	165
Rochester	150
Schenectady	115
Scranton	55
Syracuse	70
Watertown	135
Wilkes-Barre	65

Figure 3 provides a better visualization of this. In Figure 3, counties are color coordinated and the black circle represents the area within a 100 mile radius of Binghamton:

Figure 3:



The counties in New York State within a 100 mile radius of Binghamton along with their populations based on 2006 estimates according to U.S. Census Bureau⁵ are listed in *Figure 4*. It should be noted that the Census Bureau does not have population data for the under sixteen years of age category, therefore, this report uses data from the under eighteen years of age category to calculate the eligible population (age 16+).

Figure 4:

New York County	Estimated Population	% under 18	Population under 18	Eligible Population
Broome	196,269	20.7	40,628	155,641
Tioga	51,285	23.1	11,847	39,438
Chemung	88,641	22.2	19,678	68,963
Steuben	98,236	22.9	22,496	75,740
Schuyler	19,415	21.7	4,213	15,202
Tompkins	100,407	15.9	15,965	84,442
Cortland	48,483	21.0	10,181	38,302
Chenango	51,787	22.3	11,549	40,238
Delaware	46,977	20.0	9,395	37,582
Sullivan	76,588	22.6	17,309	59,279
Orange	376,392	26.6	100,120	276,272
Otsego	62,583	18.8	11,766	50,817
Onondaga	456,777	23.7	108,256	348,521
Oswego	123,077	23.1	28,431	94,646
Cayuga	81,243	21.8	17,711	63,532
Seneca	34,724	20.8	7,223	27,501
Madison	70,197	21.4	15,022	55,175
Oneida	233,954	21.8	51,002	182,952
Ontario	104,353	22.1	23,062	81,291
Yates	24,732	23.7	5,861	18,871
Wayne	92,889	24.3	22,572	70,317
Herkimer	63,332	21.6	13,680	49,652
Fulton	55,435	21.8	12,085	43,350
Montgomery	49,112	22.6	11,099	38,013
Schoharie	32,196	20.3	6,536	25,660
Greene	49,822	20.4	10,164	39,658
Ulster	182,742	20.9	38,193	144,549
Total Eligible Population			2,225,605	

The counties in the state of Pennsylvania located within 100 miles from Binghamton are listed in *Figure 5*:

Figure 5:

Pennsylvania County	Estimated Population	% under 18	Population under 18	Eligible Population
Susquehanna	41,889	22.3	9,341	32,548
Bradford	62,471	23.3	14,556	47,915
Wyoming	28,093	22.7	6,377	21,716
Lackawanna	209,728	20.7	43,414	166,314
Wayne	50,929	20.9	10,644	40,285
Carbon	62,567	20.2	12,639	49,928
Tioga	41,137	21.1	8,680	32,457
Sullivan	6,277	19.1	1,199	5,078
Columbia	65,014	18.6	12,093	52,921
Luzerne	313,020	20.0	62,604	250,416
Monroe	165,685	23.6	39,102	126,583
Montour	17,934	22.5	4,035	13,899
Pike	58,195	22.1	12,861	45,334
Northampton	291,306	21.7	63,213	228,093
Schuylkill	147,405	19.3	28,449	118,956
Northumberland	91,654	20.1	18,422	73,232
Lycoming	117,668	21.4	25,181	92,487
Total Eligible Population	1,398,162			

Lastly, the counties located within 100 miles of Binghamton in the state of New Jersey along with their respective populations are shown in *Figure 6*:

Figure 6:

New Jersey County	Population	% under 18	Population under 18	Eligible Population
Sussex	153,384	24.4	37,426	115,958
Warren	110,919	24.0	26,621	84,298
Total Eligible Population	200,257			

Therefore, the total eligible population of participants of a possible whitewater kayak park located in Binghamton, NY is 3,824,024 people. If 1% of this population participate in whitewater kayaking, then 38,240 people will do so. For a minimum estimate, we assume that each participant will take a single outing. This means for 38,240 participants, there will be 38,240 park visitations. However, as previously mentioned the average number of whitewater kayak outings is three times per year, therefore the maximum estimate is 114,720 visitations per year.

Economic Benefits

The Binghamton Convention Bureau uses set figures to estimate the economic impact of a single person visiting the local area. For an overnight trip, this is \$169 per person per night⁶. The estimate for a day trip is between \$75 and \$105 per person. According to the Bureau, visitors who travel two hours or more to come to the area usually stay the night. 100 miles is approximately two hours of travel time, and therefore, the participation numbers previously shown would not justify an overnight trip. Again, it is difficult to estimate the level of participation for a population further than this, but this is not to say that people from over two hours away will not come.

Based on the estimates given by the Binghamton Convention Bureau and the estimates of calculated participation levels, the economic benefit contributed to Binghamton as a result of the construction of a whitewater kayak park is between \$2,868,000 and \$12,045,600 per year. The former represents the most conservative calculation while the latter is the most liberal. It is important to remember that these represent conservative estimates and do not take into account the possibility of participants traveling further than 100 miles to reach Binghamton.

Conclusions and Recommendations

Looking only at the numbers, it seems clear that the construction of a whitewater kayak park in downtown Binghamton is economically beneficial. According to the report *A Joint Venture for the Development of Rockbottom Dam Whitewater Park*,⁷ provided by Gail Domin, the “lowest cost option” of a construction project which includes the creation of “a whitewater park, fish passage, and greatly reduces the hazards” of the Rockbottom Dam would range from \$3 to \$5 million. Again, the most conservative economic calculation estimates a whitewater park to bring in \$2.8 million per season. Therefore, even if this number were cut by 50%, the park would pay for itself in the matter of a few years.

However, competition already exists in the form of whitewater kayak parks located in Rochester and Pittsford, NY, Somerset County, PA, and McHenry, MD. The parks located in both Rochester and Pittsford may draw away potential participants north of Binghamton. Although relatively far away, the park located in Somerset County, PA might result in a loss of participants south and west of Binghamton; however, I find this highly unlikely. The most likely cause of competition south of Binghamton is the Adventure Sports Center International Whitewater Course in McHenry, MD. As an international level course, the park in McHenry may attract enthusiasts which many parks depend on as a result of their multiple outings per season.

Despite this, my largest concern is not that competition will bankrupt the Rockbottom Dam Whitewater Park, but rather that the estimation of participation levels in this report are erroneous. This report calculated participation based on national averages which resulted in a conservative estimate of 38,000 outings per season. However, Rockpark in

Rochester, NY only receives 1000 visits per season. The disparity between these numbers seems too large to ignore. One possible explanation for this is that even though Rochester has a larger population than Binghamton, Binghamton may experience more visitations than this due to its geographical location. In other words, a large portion of area within 100 miles of Rochester is water, but this is not the case for Binghamton. In fact, Binghamton may draw participation from heavily populated downstate New York and northern New Jersey. Therefore, it is highly likely that Rockbottom Dam Whitewater Park will receive more visitations than Rockpark.

Taking all of this into account, I recommend that if the City of Binghamton plans to renovate the Rockbottom Dam, it is clearly worth spending the additional money to construct Rockbottom Dam Whitewater Park. Renovation of the dam alone would cost \$3 to \$4 million which implies that the cost of Rockbottom Dam Whitewater Park is approximately \$1 million. Clearly, the long-term economic benefits grossly outweigh the cost which makes this project a viable opportunity.

References

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