

*Case Study***Big Foot Resort****Overview**

The Muldar Mountains have emerged over the last few years as a regional ski-vacation site, mainly for people residing within a radius of about 250 miles. Two competing ski resorts serve the area. Sasquatch Peak has 435 skiable acres, a vertical drop of 2,020 feet, 72 trails, and six lifts. Big Foot Canyon has 380 skiable acres, a vertical drop of 1,950 feet, 58 trails, and eight lifts. The base locations of the resorts are 1.5 miles apart, and a regular shuttle service runs between them. Both facilities operate on leased land and lodging in the area is owned primarily by others, so most of the revenues of both resorts are derived from lift ticket sales, lessons, meals, and equipment rentals.

Sasquatch Peak is owned by a public company and audited financial statements are publicly available. Exhibit 1 contains a summary of historical operating information for Sasquatch Peak for the past five years.

Big Foot Canyon has been a troubled company, and has just been sold for the second time. The new owners acquired the resort based on warranted financial statements that showed a net loss of \$372,000 for the most recent year. In contrast to Sasquatch, Big Foot was only able to open for 113 days during the year. The average number of skiers per day was 935, and lift tickets were sold for \$32.00. Big Foot generated revenue per skier day of \$46.40. Direct Costs for the year were 83 percent of revenue. General and Administrative Expenses were 15 percent, and the balance was Depreciation Expense.

The new owners of Big Foot Canyon expect to achieve profitable operation by making several immediate changes. First, they plan to use snowmaking equipment to increase the number of ski days to about 95 percent of what Sasquatch is able to achieve. Second, they expect that better promotion of the resort can increase the number of skiers per day to about 80 percent of what Sasquatch is able to achieve. Third, they believe that with more efficient systems they can reduce Direct Costs by about 10 percent and Selling and Administrative Costs by about 20 percent. After the capital improvements the new owners must make to compensate for deferred maintenance of the prior owners, Depreciation Expense will be about \$800,000 per year.

There are some things the new owners do not expect to be able to change. Most importantly, because of Sasquatch Peak's practice of prohibiting snowboarders, almost 70 percent of the lift tickets at Big Foot are sold to snowboarders. The owners think that because of the demographics of this group, the lift ticket price is about right. Also, while they hope to be able to increase their other revenues per skier-day from the current level of 45 percent of the price of a lift ticket to about 55 percent, they recognize that snowboarders generally do not spend as much as skiers on meals and other skiing-related items. Under these assumptions, the owners have prepared a pro forma financial statement for the resort (Exhibit 2).

## *The Decision*

While the anticipated cash flows from changes planned by the new owners of Big Foot Canyon were sufficient to justify acquisition of the resort, a more aggressive alternative is under consideration. The owners have an option to significantly expand the capacity of the resort. Leasing an additional 325 acres, adding several new lifts, and opening a number of new ski runs can increase capacity of the resort from the current level of 1800 skiers per day to over 3000 per day. The cost of expansion is estimated to be about \$5,000,000, resulting in annual depreciation expense of \$500,000.

Expanding the resort would attract more skiers to the Muldar Mountains, and, in particular, to Big Foot Canyon. Ultimately, however, the value of expanding depends on how Sasquatch Peak would react. The owners of Big Foot Canyon expect that if Sasquatch Peak does not react in any significant way, expansion of Big Foot would draw skiers away from Sasquatch Peak. They believe Sasquatch Peak management may react in any of several ways. The most significant concerns relate to the possibility that Sasquatch Peak might be opened to snowboarders, or that Sasquatch Peak might also be expanded to maintain its preeminence.

The owners of Big Foot have conducted some market analysis. Based on the analysis, they have outlined four scenarios based on the possible reactions of Sasquatch Peak to an expansion of Big Foot. The scenarios are detailed in Exhibit 3. Recognizing that the market reaction to any change is uncertain, they have used the most recent five years of operating history of Sasquatch Peak (from Exhibit 1) to generate some basic measures of uncertainty. That analysis is contained in Exhibit 4. Thus, descriptions of uncertainty in Exhibit 3 are based on quantitative estimates of uncertainty in Exhibit 4 and on the judgment of Big Foot management about how Sasquatch Peak's management might assess the alternatives.

The owners of Big Foot use a multiple of eight times incremental cash flows to value new investments. They believe Sasquatch Peak's management is likely to use the same multiple, but could use a multiple as low as 7 to as high as 12 times incremental cash flows.<sup>1</sup>

## *Analysis and Discussion*

1. Use a game tree to examine the strategic alternatives of Big Foot Canyon and Sasquatch Peak.
2. Develop a simulation model to value the free cash flows and compare the various alternatives of each party, and use the results to evaluate the various branches of the tree.
3. What should Big Foot do?

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<sup>1</sup> This case is intended to focus on analysis of strategic alternatives. With this objective in mind, we have abstracted from some of the issues related to cash flow projection and valuation.

## Exhibit 1

<b>Sasquatch Peak</b>					
<b>Historical Operating Statistics</b>					
	<b>Most Recent Year</b>	<b>Last Year</b>	<b>Two Years Ago</b>	<b>Three Years Ago</b>	<b>Four Years Ago</b>
Ski Days	130	113	140	109	134
Skiers per Day	1425	1310	1430	1375	1465
Lift Ticket Price	\$35.00	\$34.00	\$33.00	\$32.00	\$29.00
Revenue per Skier Day	\$57.00	\$56.10	\$51.15	\$51.20	\$49.30
Total Revenue	\$10.56 mil.	\$8.30 mil.	\$10.24 mil.	\$7.67 mil.	\$9.68 mil.
Direct Cost/Revenue <sup>2</sup>	65.0%	68.2%	64.3%	70.1%	63.8%
Selling and Admin. Exp.	\$1.48 mil.	\$1.35 mil.	\$1.28 mil.	\$1.32 mil.	\$1.22 mil.
Depreciation Expense	\$1.27 mil.	\$1.24 mil.	\$1.20 mil.	\$1.17 mil.	\$1.10 mil.
Capital Assets/Sales	181%	192%	175%	187%	179%
Current Assets/Sales	9.4%	9.7%	9.2%	9.8%	9.3%
Current Liabilities/Sales	37.2%	42.3%	39.0%	41.7%	38.5%

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<sup>2</sup> Direct costs are essentially all variable and exclude depreciation expense.

## Exhibit 2

<b>Big Foot Canyon</b> <b>Pro Forma Financial Statements</b>		
<b>Sales Forecast</b>		
Sasquatch Peak average ski days	125.2 days	
Big Foot achievable pct.	95 %	
Projected average ski days		118.9 days
Sasquatch Peak avg. skiers per day	1401 skiers	
Big Foot achievable pct.	80 %	
Projected avg. skiers per day		1120.8 skiers
Lift ticket price	\$32.00	
Other revenue percentage	55 %	
Projected revenue per skier		\$49.60
<b>Income Statement</b>		
Revenue		\$6,609,851
Direct Costs <sup>3</sup>	\$4,626,896	
Selling and Admin. Expenses <sup>4</sup>	\$881,136	
Depreciation Expense	\$800,000	
Total Expenses		\$6,308,032
Net Taxable Income		\$301,819
Income Tax (35%)		\$105,637
Net Income		\$196,182
<b>Balance Sheet</b>		
Current Assets <sup>5</sup>	\$626,614	
Capital Assets	\$12,082,808	
Total Assets		\$12,709,422
Current Liabilities	\$2,626,755	
Invested Capital	\$10,082,667	
<b>Cash Flow</b>		
Net Income		\$196,182
Depreciation Expense		\$800,000
Operating Cash Flow		\$996,182

<sup>3</sup> Direct Cost percent of Revenue is calculated as  $((.83 \times \$46.40) \times .9) / \$49.60 = 70.0\%$ .

<sup>4</sup> Selling and Administrative Expense percent of Revenue is calculated as  $((.15 \times \$46.40 \times .8) / \$49.60 = 13.3\%$ .

<sup>5</sup> Balance Sheet accounts assume the same ratios to sales as the averages for Sasquatch.

### Exhibit 3

Effects of Possible Reactions of Sasquatch Peak to Big Foot Expansion				
	Do Nothing	Open to Snowboarding	Expand Sasquatch	Expand and Open to Snowboarding
Increase in Skiers per Day to Muldar Mountains <sup>6</sup>	Mean = 771 Std. Dev. = 59	Mean = 804 Std. Dev. = 126	Mean = 1332 Std. Dev. = 227	Mean = 1183 Std. Dev. = 295
Increase in Skiers per Day to Sasquatch Peak <sup>7</sup>	Mean = -129 Std. Dev. = 120	Mean = 125 Std. Dev. = 90	Mean = 592 Std. Dev. = 160	Mean = 650 Std. Dev. = 270
Increase in Skiers per Day to Big Foot <sup>8</sup>	Mean = 900 Std. Dev. = 60	Mean = 679 Std. Dev. = 115	Mean = 740 Std. Dev. = 90	Mean = 533 Std. Dev. = 170
Incremental Revenue per Skier to Sasquatch Peak <sup>9</sup>	Mean = \$56.90 Std. Dev. = \$4.45	Mean = \$48.00 Std. Dev. = \$4.25	Mean = \$56.90 Std. Dev. = \$5.50	Mean = \$52.00 Std. Dev. = \$8.75
Incremental Revenue per Skier to Big Foot	Mean = \$49.60 Std. Dev. = \$2.25	Mean = \$53.00 Std. Dev. = \$3.15	Mean = \$49.60 Std. Dev. = \$3.25	Mean = \$54.00 Std. Dev. = \$4.00
Incremental Direct Costs of Sasquatch Peak <sup>10</sup>	Mean = 66.28% Std. Dev. = 6.00%	Mean = 70.00% Std. Dev. = 6.00%	Mean = 66.28% Std. Dev. = 6.00%	Mean = 63.50% Std. Dev. = 6.35%
Incremental Direct Costs of Big Foot	Mean = 70.00% Std. Dev. = 2.25%	Mean = 68.00% Std. Dev. = 3.00%	Mean = 70.00% Std. Dev. = 2.25%	Mean = 68.00% Std. Dev. = 3.50%
Incremental S&A Expenses of Sasquatch Peak	Mean = \$0 Std. Dev. = \$100,000	Mean = \$300,000 Std. Dev. = \$100,000	Mean = \$700,000 Std. Dev. = \$150,000	Mean = \$750,000 Std. Dev. = \$150,000
Incremental S&A Expenses of Big Foot	Mean = \$500,000 Std. Dev. = \$80,000	Mean = \$600,000 Std. Dev. = \$80,000	Mean = \$600,000 Std. Dev. = \$80,000	Mean = \$500,000 Std. Dev. = \$80,000
Incremental Capital Investment of Sasquatch Peak <sup>11</sup>	Mean = \$0 Std. Dev. = \$0	Mean = \$0 Std. Dev. = \$0	Mean = \$6,500,000 Std. Dev. = \$500,000	Mean = \$6,500,000 Std. Dev. = \$500,000
Incremental Capital Investment of Big Foot <sup>12</sup>	Mean = \$5,000,000 Std. Dev. = \$300,000			

<sup>6</sup> Compared to projected annual average of 2522 skiers per day without expansion of Big Foot Canyon.

<sup>7</sup> Compared to projected annual average of 1401 skiers per day without expansion of Big Foot Canyon.

<sup>8</sup> Compared to projected annual average of 1121 skiers per day without expansion of Big Foot Canyon.

<sup>9</sup> Based on historical experience of Sasquatch Peak.

<sup>10</sup> As a percent of incremental revenue. All direct costs are assumed to be variable.

<sup>11</sup> Annual depreciation is estimated as 10 percent of the expected investment.

<sup>12</sup> Annual depreciation is estimated as 10 percent of the expected investment.

Exhibit 4<sup>13</sup>

<b>Sasquatch Peak Resort - Analysis of Uncertainty</b>								
<b>Year</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>Avg</b>	<b>s.d.</b>	<b>Coef. Var.</b>
Ski Days	130	113	140	109	134	125.2	13.52	10.80%
Skiers per Day	1425	1310	1430	1375	1465	1401	60.15	4.29%
Lift Ticket Price	\$35.00	\$34.00	\$33.00	\$32.00	\$29.00			
Revenue per Skier Day	\$57.00	\$56.10	\$51.15	\$51.20	\$49.30			
Revenue	\$10,559,250	\$8,304,483	\$10,240,230	\$7,673,600	\$9,678,083			
Other Revenue Pct.	62.86%	65.00%	55.00%	60.00%	70.00%	62.57%	5.59%	8.94%
Ticket Pct. Increase	0.00%	2.94%	6.06%	9.38%	20.69%			
Cur. Yr. Rev Equivalent	\$10,559,250	\$8,800,166	\$11,519,083	\$9,179,844	\$14,097,089	\$10,831,086	\$2,125,162	19.62%
Direct Cost/Revenue	65.00%	68.20%	64.30%	70.10%	63.80%	66.28%	2.74%	4.13%
Selling and Admin. Exp.	\$1,480,000	\$1,350,000	\$1,280,000	\$1,320,000	\$1,220,000			
S&A Pct.	14.02%	16.26%	12.50%	17.20%	12.61%			
Cur. Yr. S&A Equivalent	\$1,480,000	\$1,430,580	\$1,439,853	\$1,579,102	\$1,777,051	\$1,541,317	\$144,322	9.36%
Capital Assets/Sales	181%	192%	175%	187%	179%	182.80%	6.72%	3.68%
Current Assets/Sales	9.40%	9.70%	9.20%	9.80%	9.30%	9.48%	0.26%	2.73%

<sup>13</sup> A downloadable Excel file of this figure is available.