

## **INTRODUCTION**

The Wyoming Dinosaur Center at Thermopolis as a part of the Consortium for Paleocological Studies is embarking on a multi-faceted program of education and research initiatives. The initiatives, called the Integrated Geoscience Education Program (IGEP), will teach students and teachers scientific concepts and processes through the use of hands-on, integrated studies in paleoecology, paleontology, geology, and museum technology. Since most of the activities will take place in Thermopolis, Wyoming, IGEP could potentially bring new education and research opportunities, increase local employment and tourism, and offer new cultural amenities to Thermopolis and the surrounding area. Additional staff and infrastructure will be needed in Thermopolis in order to support this program. In addition the Consortium will construct a facility to house students on property owned by the Wyoming Dinosaur Center. This facility will include dormitory-style rooms, kitchen and dining facilities, a computer laboratory, an interactive learning facility, classroom and meeting rooms.

At the request of the Wyoming Dinosaur Center and the Thermopolis Economic Development Corporation, the University of Wyoming through the Wyoming Cooperative Extension Service has conducted the following analysis of the potential economic impact of the IGEP program on Thermopolis and Hot Springs County.

## **PROCEDURES**

The economic impact analysis was divided into two parts. The first is the short-term economic impacts associated with constructing, equipping and furnishing the dormitory/classroom facility. This impact is short-term in the sense that it is a one-time impact to Hot Springs County that ceases when the facility is completed. The second is

the long-term economic impacts associated with the operation of the IGEP. These operation impacts include the program-related payroll for staff located in Thermopolis and local expenditures by visitor staying at the dorm facility. This impact is long-term in the sense that it continues on an annual basis as long as the program remains in operation.

Information on construction, equipment, furnishings, and payroll expenditures for IGEP was provided by the Wyoming Dinosaur Center. Estimates of dorm visitor expenditures were developed from a report on 1998 visitor expenditures by Morey & Associates for the Wyoming Business Council. The visitor expenditure figures were based on data for Region 4 in Wyoming, which includes Park, Hot Springs, Washakie, Big Horn, Sheridan, Johnson, Campbell, Crook, and Weston Counties.

The economic impact of the IGEP was estimated through a modified IMPLAN based input-output model for Hot Springs County. IMPLAN is a non-survey based system that can provide models for any county in the nation. It was originally developed by the U.S. Forest Service but is currently maintained by a private sector firm, the Minnesota IMPLAN Group.

## **RESULTS**

### **Direct Expenditures**

Table 1 summarizes the direct economic impacts on Hot Springs County from the IGEP in terms of construction costs, dorm visitor expenditures, and program payroll. As show in Table 1, dorm construction, furnishings, and equipment costs were estimated to be \$1.5 million including \$1.4 million in construction costs and \$65,000 in furnishings and equipment. It was assumed that these purchases will be made from businesses

located in Hot Springs County. If this were not the case, the economic impact of the construction phase would be reduced accordingly.

The IGEP will serve a wide variety of groups ranging from inner city youth to elder hostel participants to college students to schoolteachers and other special groups. This variety makes estimating dorm visitor local expenditures difficult. Some will likely spend very little in Thermopolis while others may spend a substantial amount. The Morey & Associate report indicates that the average daily expenditure per person for individuals staying in hotels or motels in Region 4 was \$82.54 in 1998 (Table 1). This amount seemed rather high for traveling expenditures by the type of visitors staying at a dorm facility. Instead, the average daily expenditure per person for individuals staying in public campgrounds in Region 4 (\$37.42) was used as the basis for dorm visitor expenditure estimates. The public campground expenditure amount was selected because, in a sense, the visitors would be “camping out” in the dorm. The public campground expenditure was modified in three ways. First, based on information from the Wyoming Dinosaur Center, the average lodging rate at the dorm was changed to \$10.00 per night. Secondly, because many of the dorm visitors would not be traveling in individual private vehicles, local gasoline expenditures were reduced by 50 percent. Finally, information from the Wyoming Dinosaur Center indicates that the average visitor pays \$36.31 per day in museum and dig-site fees to the Center. As a result of these modifications the local expenditure per dorm visitor day was estimated to be \$73.86 (Table 1). Assuming 627 dorm visitor days annually, total visitor expenditures for the IGEP are estimated to be about \$46,300 per year.

Finally, the Wyoming Dinosaur Center estimates the program payroll for IGEP staff located in Thermopolis would be \$171,000. This amount represents the payroll for the equivalent of 7.3 full-time new positions that would be located in Thermopolis. In some cases these full-time equivalent of employment would actually represent several new or expanded existing part-time positions.

### **Total Economic Impact**

Table 2 summarizes the total economic impact on Hot Springs County from the IGEP. Total economic impact considers not only the effects of the direct expenditures on the county's economy, but also the secondary impacts associated with the "multiplier effects" resulting from the direct expenditures. In terms of the short-run construction impacts, the direct expenditure of \$1.5 million to construct, equip, and furnish the dorm facility would result in about \$361,000 of secondary impacts for a total economic impact of \$1.9 million. This economic activity would generate about \$452,000 in total labor earnings and a total of 20.6 annual equivalents of employment in the Hot Springs economy during the construction phase. Average earnings per job would be \$21,945.

In terms of long-term annual economic impact, \$46,300 of local dorm visitor expenditures would result in about \$19,000 of secondary impacts for a total economic impact of about \$65,300 (Table 2). This economic activity would result in about \$15,900 of total labor earnings and a total of 1.7 annual equivalents of employment. Average earnings per job would be \$9,366.

The program related payroll for IGEP staff located in Thermopolis would also generate long-term annual economic impacts in the county. The \$171,000 payroll would

result in about \$16,300 of secondary labor earnings for total labor earnings of about \$187,300. This economic activity would support a total of 8.4 annual job equivalents with average earnings per job of \$22,301.

### **SUMMARY AND CONCLUSIONS**

The IGEP would have a positive economic impact on the Hot Springs County economy. In the short-term, construction of the dorm facility could generate up to 20.6 annual equivalents of employment in the county and up to \$452,000 in labor earnings. Average earnings per job would be \$21,945. The actual impact of the construction phase would depend on the extent that construction, equipment, and furnishing purchases are made in Hot Springs County.

In the long-term, the combination of dorm visitor expenditures and IGEP payroll would generate up to 10.1 annual equivalents of employment in the county and \$203,000 in labor earnings on an annual basis for the life of the program. Average earnings per job would be \$20,124.

In addition to generating additional employment in Hot Springs County, the IGEP would also generate above average paying jobs in the community. The U.S. Department of Commerce estimates that average earnings per job in Hot Springs County was \$16,881 in 1997. This earnings level is 27 percent below the Wyoming average and 45 percent below the national average. Both the construction and operation phases of the IGEP would generate jobs paying on average more than \$20,000 per year. These salary and wage levels are 20 to 30 percent above the county average and are comparable to the Wyoming average.

## REFERENCES

Minnesota IMPLAN Group, Inc. IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis Software. 1<sup>st</sup> Edition -April 1999.

Morey & Associates, Inc. and the University of Wyoming, College of Business, Dept. of Economics & Finance. Report on the Economic Impact of the Travel Industry in Wyoming – 1998. Prepared for the Wyoming Business Council, Division of Tourism, April 1999.

U.S. Department of Commerce, Economic and Statistical Administration, Bureau of Economic Analysis. Regional Economic Information System 1969-1997, RCN-0203, May 1999.

**Table 1. Direct IGEP Expenditures in Hot Springs County**

### **Construction Expenditures**

Dorm Constructiion	\$1,437,000
Furnishings & Equipment	\$65,000
Total Construction	\$1,502,000

### **Estimated Dorm Visitor Expenditure Per Person Per Day**

	Per Person Per Day Hotel/ Motel	Per Person Per Day Public Campground	Per Person Per Day Dorm Visitors	@627 Dorm Visitors Days
Lodging	\$28.60	\$6.65	\$10.00	\$6,270
Restaurants	\$19.10	\$6.77	\$6.77	\$4,245
Groceries	\$1.50	\$5.44	\$5.44	\$3,409
Entertainment/Attractions	\$7.44	\$5.07	\$5.07	\$3,179
Outfitters	\$2.35	\$0.00	\$0.00	\$0
Licenses	\$3.19	\$1.15	\$1.15	\$720
Shopping	\$13.01	\$5.92	\$5.92	\$3,711
Gasoline	\$5.86	\$6.42	\$3.21	\$2,014
Local Transportation	\$0.03	\$0.00	\$0.00	\$0
Car Rental	\$1.46	\$0.00	\$0.00	\$0
Dinosaur Center	\$0.00	\$0.00	\$36.31	\$22,766
Total Visitor	\$82.54	\$37.42	\$73.86	\$46,313

Source: Adapted from "Report on the Economic Impact of the Travel Industry in Wyoming 1998" Region 4, Morey & Associates, Inc., Report to Wyoming Business Council

**Program Payroll** \$171,000

**Table 2. Total Economic Impact of IGEP on Hot Springs County**

**Construction Impact**

	Direct	Secondary	Total	Multiplier
Output	\$1,502,000	\$361,038	\$1,863,038	1.24
Labor Income	\$322,689	\$129,385	\$452,074	1.40
Employment	12.8	7.8	20.6	1.61
Ave Income Per Job	\$25,210	\$16,588	\$21,945	N.A.

**Dorm Visitor Expenditures**

	Direct	Secondary	Total	Multiplier
Output	\$46,313	\$18,979	\$65,292	1.41
Labor Income	\$10,610	\$5,312	\$15,922	1.50
Employment	1.4	0.3	1.7	1.21
Ave Income Per Job	\$7,579	\$17,707	\$9,366	N.A.

**Program Payroll**

	Direct	Secondary	Total	Multiplier
Labor Income	\$171,000	\$16,328	\$187,328	1.10
Employment	7.3	1.1	8.4	1.15
Ave Income Per Job	\$23,425	\$14,844	\$22,301	N.A.

**Dorm Visitor Expenditures & Program Payroll**

	Direct	Secondary	Total	Multiplier
Labor Income	\$181,610	\$21,640	\$203,250	1.12
Employment	8.7	1.4	10.1	1.16
Ave Income Per Job	\$20,875	\$15,457	\$20,124	N.A.