

# **Economic Diversity and Biodiversity in the Eastern Sierra Nevada**

**Report to the California Biodiversity Council**

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The Eastern Sierra Nevada is well known for its biological diversity. This paper focuses on the economic diversity of the region and its relationship to biological diversity. It is primarily based on data from the Sierra Nevada Ecosystem Project, the Sierra Nevada Wealth Index, and a number of web sites maintained by state agencies. The data clearly illustrates that economic diversity is lower for the East Side compared to other parts of the Sierra Nevada. Many important choices will have to be made in both Mono and Inyo counties to maintain both the unique biological diversity and economic diversity.

## **Basic Economic Facts**

- 1996 Population: 10,500 Mono, 18,500 Inyo, projected growth rate through 2010 is 2.0 percent
- Land Ownership: 95 percent federal and other government, 2.5 percent ranches, 2.5 percent other private
- Water Use: 58 percent export to Los Angeles, 21 percent agriculture, 17 percent legally required environmental uses, 4 percent residential and commercial (DWR Bulletin 160)
- Per Capita Income (1995): \$20,000. Above other rural Sierra Nevada areas (Plumas/Sierra \$18,750; Amador/Calaveras/Tuolumne/Mariposa \$17,750) but below suburban Sierra Nevada (Nevada/Placer/El Dorado \$22,750)

## Key Employment Sectors

- Natural resource related employment tied to recreation, agriculture and mining
- Mining and agricultural employment declined from 13 percent to 7 percent of total jobs from 1970 to 1990
- Recreation and tourism sector is largest employer
- Service sector has relatively fewer high wage jobs than other Sierra Nevada regions
- Mining employment ranges from 0 to 4 percent by subregion, with overall 2 percent for East Side
- Agriculture output is 60 percent cattle and 40 percent crops by value

## Natural Resource Related Jobs in the Sierra Nevada – Percent of Total Employment

Region	Travel	Timber	Agriculture and Mining	Construction	Non-timber Manufacturing	Public Administration
East Side	13	0	7	10	3	7
Tahoe Basin	31	0	2	9	4	4
West Side - conifer belt	8	8	8	9	2	9
West Side - foothills	5	5	6	12	8	7

Source: 1990 Census data analyzed in Stewart (1996) in *Sierra Nevada Ecosystem Project*

The comparison to other regions of the Sierra Nevada highlights the unique nature of the East Side economy. While it agriculture and mining have a much smaller role now than they did in previous decades, they still represent a significant component of employment. Its travel or recreation economy represents a larger share of employment for all regions except the Tahoe Basin.

## Patterns in Recreation and Tourism

Two different approaches to assessing the interaction between recreation and the biological diversity are to analyze where people recreate and what types of businesses are supported by people travelling to and from their recreational opportunities. The following two tables summarize the types of recreational activities measured on the lands of two largest land owners on the East Side – the USDA Forest Service and the Bureau of Land Management. It is clear from the use statistics that people come to the Eastern Sierra Nevada for a wide variety of recreational experiences. The dominant uses (resorts, skiing, and camping at developed sites) and the relatively low percentage of use that occurs in the designated wilderness areas suggests that most recreational use is concentrated in a few pockets. Most people probably drive or walk a short distance for their recreational experiences. Wilderness and all terrain vehicle use account for a small fraction of total recreation.

## Recreation on Federal Lands

### Inyo National Forest - 3.2 million Recreation Visitor Days (RVDs) in activities

Activity	Percent
Resorts	25
Winter sports	20
Other recreation	16
Hiking, horseback riding	15
Fishing	13
Camping, picnicking	8
Hunting	3

Note 1: 11 percent of RVDs in USFS Wilderness Areas (86 percent foot, 14 percent stock)

Note 2: USFS calculates another 3.2 million RVDs are involved in travelling through the Eastern Sierra

### Bishop Area, BLM - 860,000 Recreation Visitor Days (RVD) in activities

Activity	Percent
Camping, other travel, site based activities	84
Fishing	8
OHV	5
Hunting	2
Snowmobile	1

Source: Timothy P. Duane. 1996. "Recreation in the Sierra," *Sierra Nevada Ecosystem Project*

## Private Recreation Businesses

While most land is federally owned, most of the employment related to recreation and tourism is generated through private businesses on private land or through concessionaires. The small size of the economies in the Mono and Inyo counties limit the level of detail available for recreation businesses and employment relative to larger metropolitan areas. An alternative method used here is to search computerized 'Yellow Pages' to develop a count of businesses with Standard Industrial Codes (SIC) related to travel or recreational services. Statewide analyses suggest that approximately two thirds of the overall business activity of these firms are related to visitors and one third is related to local residents. This method misses other retail stores that may have strong connections to travel and recreation but does provide a standard base for analyzing the relative size and location of businesses. Similar analyses have been done by FRAP for three whole bioregions - the Sierra Nevada, Klamath, and the Modoc Plateau.

Types of Businesses	Number	Percent
Hotels/Motels/Resorts	211	46
Restaurants	154	34
Sporting Goods	58	13
Outdoor Services	29	6
Private Campgrounds	3	1
Total	455	100

Location of Businesses	Number	Percent
Mammoth Lakes	197	43
Rest of Mono County	120	26
Bishop	91	20
Rest of Inyo County	47	10
Total	455	100

Source: 1996 Business Yellow Pages: ProPhone CD-ROM

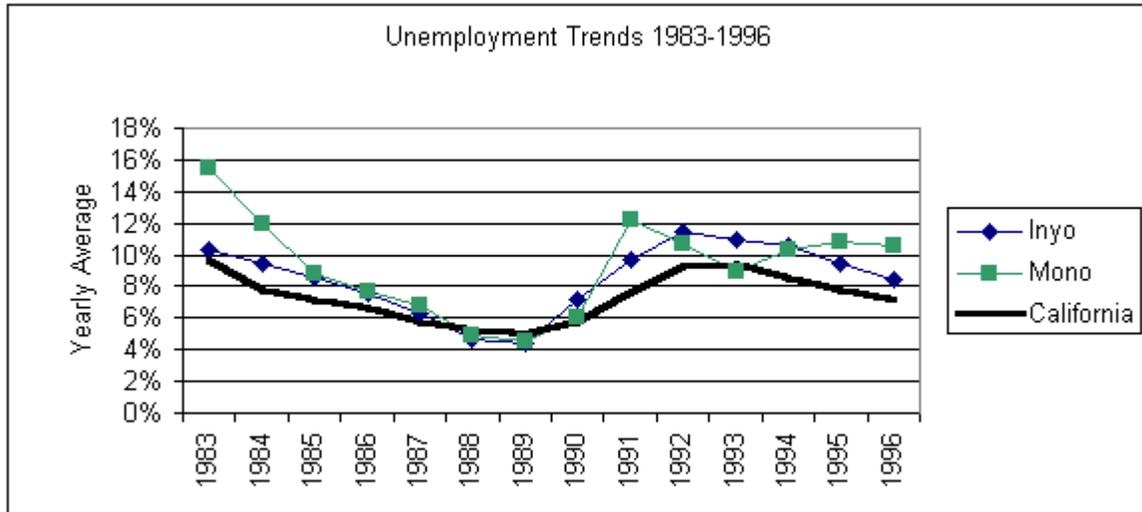
- Nearly 500 businesses are primarily involved in the recreation and tourism economy. This excludes many food, transportation, and retail stores that also have considerable recreation and tourism related revenue.
- Mammoth Lakes and Bishop are the principal centers for recreation and tourism related businesses in the Mono and Inyo counties respectively. This pattern suggests that some of the other unique areas in the Eastern Sierra Nevada are under-served relative to the unique opportunities for recreation.

## Annual and Seasonal Employment Trends

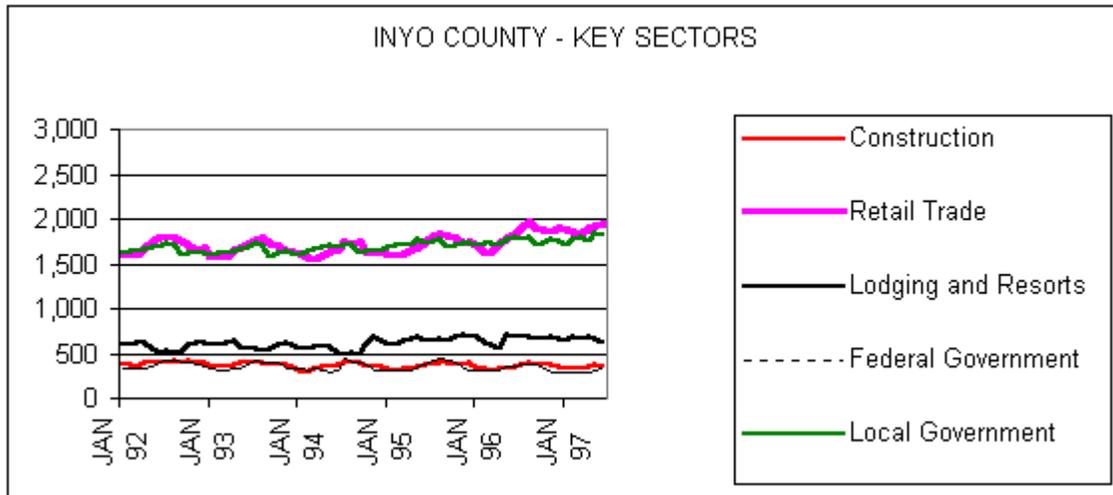
Another economic perspective can be gained by looking at the labor market – how many people are employed and in what sectors. The figure comparing unemployment trends over the past fifteen years clearly shows that unemployment trends in Mono and Inyo generally follow those for the state as a whole. Mono County is unique due to the strong negative impact of low snow years.

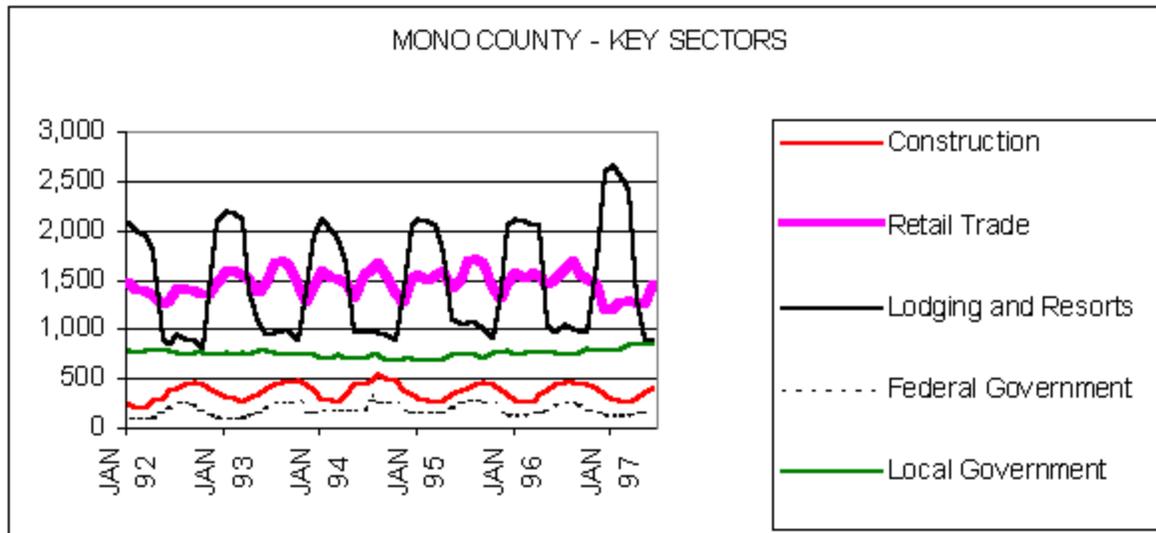
A closer look at some of the seasonal variations for key sectors closely related to recreation illustrates some other important patterns. The following charts illustrate employment trends over the past five years. Seasonal variations are noticeable in Inyo where retail trade, construction, and federal employment all go up in summer and decline in the winter. Local government employment is dominated by teachers and declines during the summer. The relatively greater negative impact of the cold winters in Mono is evident in the large summer increases in construction, federal employment and in retail trade. More noticeable is the huge impact of the ski economy on employment at lodging

and resorts as well as in the retail trade sector. The sum of these two seasonal booms creates a unique pattern where the spring and fall are the periods of greatest unemployment in Mono County. One impact of this pattern is that much of the workforce must be shifting between a variety of seasonal jobs throughout the course of a single year.



Source: Labor Market Information, Employment Development Department





## Other Service Sector Employment

Improvements in communication allow many types of businesses and related employment normally associated with larger metropolitan areas to locate in rural areas such as the Eastern Sierra. In many cases, the advantages of living close to recreational opportunities and a less developed environment are prime reasons why business owners and highly skilled employees are located in the Sierra Nevada. In a poll conducted by the Sierra Business Council, 71 percent of the respondents considered the 'quality of the environment' a major reason why they chose to live in their community (*Planning for Prosperity*, 1997, Sierra Business Council). Compared to other regions in the Sierra Nevada, the economy of the Eastern Sierra Nevada appears to have not benefited as much from the location of high-skill, high-wage employment. The following two pages from the Sierra Nevada Wealth Index illustrate the relatively smaller role. Attracting and holding such employment opportunities could increase the economic diversity of the region by building directly on its unique biological diversity.

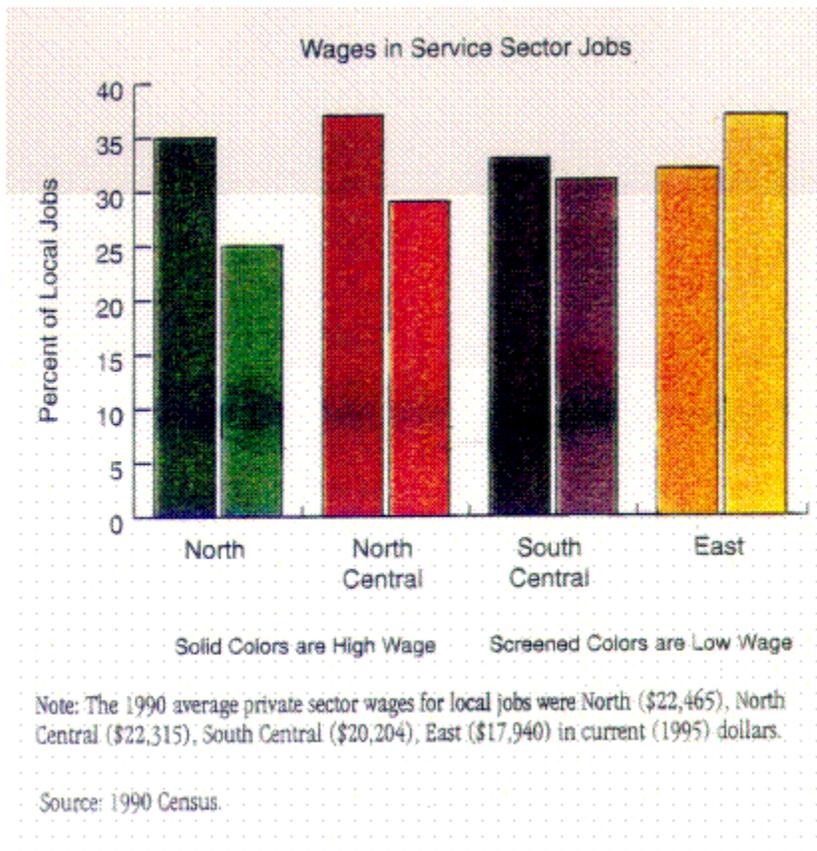
## Sierra Nevada Wealth Index: Most Service Sector Jobs Pay Above Average Wages

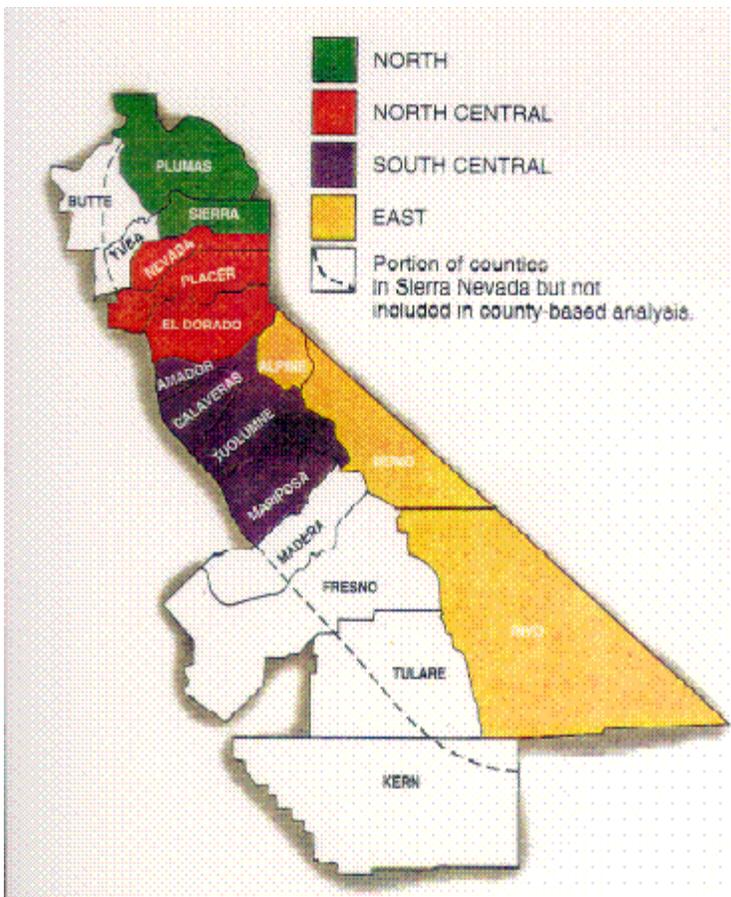
### How are we doing?

In every region except the East, more service sector jobs pay above-average wages than pay below-average wages. Jobs in health, finance, insurance, legal, and professional business service sectors provide services that residents would otherwise have to purchase in metropolitan areas outside the Sierra Nevada. The growth in high wage service jobs was the single largest growth trend in overall employment patterns between 1970 and 1990.

## Why is it important?

Growth in high wage service sector jobs will be crucial to increasing the size and diversity of the employment base in the Sierra Nevada. Although the thousands of small businesses that make up the high-wage service sector are less visible than ski resorts, high technology manufacturing plants, and other large employers, their growth and vitality will be central to overall economic prosperity. Public Administration employment (justice, police, prisons, environmental quality, housing) are not included in this chart since the number of these jobs is determined by state and federal policies rather than by local conditions. The inclusion of federal and state public administration jobs would further increase the percentage of above-average wage service sector jobs.





Service Sector Wages Relative to Average Private Sector Wages			
Above Average	Index	Below Average	Index
Communications	1.37	Entertainment/Recreation	0.87
Transportation	1.22	Business Repair	0.82
Wholesale trade	1.19	Retail trade	0.55
Finance, Insurance, Real Estate	1.13	Lodging and related services	0.47
Health, Education, and other professional services	1.09		

Source: County Business Patterns: California 1993.

Source: Sierra Nevada Wealth Index, 1996. Sierra Business Council

## Challenges of Economic Diversification for the Eastern Sierra Nevada

The overall economic portrait of the Eastern Sierra Nevada is relatively robust and healthy. Compared to other rural areas of California, unemployment rates are lower and incomes are higher. In relation to a long range goal of maintaining both economic diversity and biodiversity, three plausible hypotheses are worth considering.

1. Economic diversification will not come from growth in commodity production (minerals, agriculture, or timber) as these sectors have experienced significant declines and have limited potential for regaining higher and sustainable output levels. They will remain important components of some of the smaller communities and will continue to be a major component of the cultural landscape of the region. Unlike the western side of the Sierra Nevada, there is little evidence that the East Side will experience a similar economic infusion from commuters and retirees moving into the region. The longer distance from major metropolitan centers and the greater climatic variation ensure that the East Side will remain a unique part of California.

2. It is probable that growth of the recreational economies in the twin centers of Mammoth Lakes and Bishop will continue to be the largest pillars of the overall recreational economy. Economic diversification, both in terms of the location of the businesses and in increasing the year-round resident clientele, could strengthen the robustness of the linkage between the economy and the environment. A comparison of the East Side to other similar regions in California and the western United States suggests two potential opportunities for increased economic diversification. The first is to build on some of the unique recreational opportunities and existing communities up and down the East Side (Walker, Bridgeport, Crowley Lake, Big Pine, Independence, Lone Pine, etc.) outside of Mammoth Lakes and Bishop. The second is to attract and hold 'footloose' high-value, high-wage service sector businesses whose owners and employees appreciate the unique biological diversity of the region.
3. The present spatial concentration of recreational uses may create hidden environmental liabilities that will be expensive to correct. While the environmental data is limited, it is possible that the heavy concentration of recreational use around Mammoth Lakes may create some of the problems experienced by South Lake Tahoe when growth clearly exceeded the carrying capacity of the local environment. Dispersing recreational usage to a number of other staging areas is an alternative worth exploring. In all cases, the final decisions should be made by local decision-makers interested in preserving both the unique communities and the unique biodiversity of the region.