Economic and Quality of Life Indicators for Allegheny National Forest Counties in Pennsylvania

Cameron, Elk, Warren, McKean and Forest Counties

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Executive Summary

This report analyzes sustainable tourism indicators in Pennsylvania's five-county Allegheny National Forest region (Cameron, Elk, Warren, McKean, and Forest Counties) as part of a USDA-funded multi-state project examining rural gateway community resilience. Using participatory research involving both residents and visitors, we worked closely with stakeholders to identify key local economic, social, and environmental indicators for systematic regional comparisons of prospects for and concerns over tourism and broader economic development.

The 3,500-square-mile study region faces significant economic transitions. While manufacturing dominates in Cameron (46.5%) and Elk (42.6%) counties, education and health services lead in Forest County (36%). The natural resources sector grew countercyclically during 2008-2012 due to increased natural gas extraction, even as manufacturing experienced steep long-term declines.

Tourism indicators reveal both vulnerability and resilience. Visitor spending reached $493.5 million in 2022, recovering from $346.4 million in 2020. Recovery varied noticeably, with Forest County reaching 148% of 2019 activity levels while Warren and McKean remained at 92.9% and 94.5%, respectively. Transportation was the largest spending category ($169.3 million), reflecting the fact that visitors drive to this relatively remote region. Tourism generated $177.5 million in labor income and $43 million in tax revenues, including multiplier effects.

Leisure and Hospitality employment has remained stable (3,292 jobs in 2023) despite a 15% COVID drop, which exceeded that experienced during the 2008 recession. Short-term rental listings have surged since 2019, indicating structural shifts in the availability of accommodation. The region maintains a well-developed food service infrastructure, with some counties exceeding averages for craft beverage establishments per person in other recreation-dependent counties.

Demographic challenges persist. Population has declined since 2000, with the working-age cohort (25-44-year-olds) below the national average of 26.2%. Educational attainment lags significantly – bachelor's degree-holders range from 10.9% (Cameron) to 19.5% (McKean and Warren) versus 34.3% nationally. In Forest County, 70% of homes are used seasonally. Housing is affordable, but lagging internet access limits opportunities, such as businesses development.

Environmental assets include good and improving air quality, significant areas of parkland, and extensive outdoor recreation infrastructure (with 220 hiking areas, 169 mountain biking trails, and 164 hunting areas). However, water quality varies across the five counties.

Preliminary recommendations emphasize integrated strategies: economic diversification beyond tourism; workforce development to address adverse demographic trends; educational alignment with growth sectors; coordinated regional marketing; and balanced visitor growth with environmental preservation. Success requires recognizing tourism as one component of comprehensive rural resilience. The region faces structural transitions and demographic headwinds while possessing natural assets and emerging tourism opportunities that, if properly managed, could contribute to sustainable development. A key challenge is to develop the region’s natural assets and to scale up tourism-related assets without destroying the features that make the region so desirable as a destination.

1. Introduction

Project Overview

Growing and maintaining a healthy recreation and tourism sector, that benefits all or most residents over the long term, requires active stakeholder engagement, a robust understanding of potential challenges and opportunities, collaboration among various levels of government and landowners, and a sound, research-based plan for a region's future. Research around the world has identified both rapid increases in rural tourism activity due to the COVID-19 pandemic, and the challenges that rural destinations face. While the recent pandemic brought unprecedented opportunities to develop and promote tourism in rural gateway communities, rural Destination Management Organizations face considerable challenges as they attempt to promote economic prosperity through tourism.

Gateway communities in the United States lack research-based performance indicators to measure and evaluate their strengths and weaknesses and to identify where additional resources are needed to enhance the tourism and recreation economy. To this end, a multi-state, integrated project team of research and extension faculty from West Virginia University, Penn State University, the University of Vermont, and the University of New Hampshire was formed with support from the Northeast Regional Center for Rural Development to develop an integrated process for measuring and evaluating sustainable tourism performance indicators and levels of competitiveness in rural destinations in the northeast United States.

By uncovering factors that make destinations resilient the project will propose policy recommendations and general guidelines for improving destination and gateway community sustainability and well-being. This project was funded through a USDA Agriculture and Food Research Initiative grant and uses a mixed-method approach involving primary and secondary data collection for three targeted rural case study destinations in: northwestern Pennsylvania, the Upper Valley region on the Vermont/New Hampshire border, and the Monongahela National Forest region of West Virginia.

The long-term goal of this project is to leverage Land-Grant Universities resources to enhance the sustainability and resiliency of rural destinations. This is accomplished by using research-based information and a destination management framework for rural gateway destinations to address post-COVID 19 opportunities and challenges identified by communities. Project team members will work closely with destination leadership in targeted case study regions to accomplish the research activities which include:

- Surveys to assess visitor preferences and resident attitudes toward tourism
- Economic, Quality of Life, and Tourism Data Report (this document)
- Inventory and spatial analysis of recreation and tourism infrastructure and assets
- Mobile phone data analysis to better understand visitors/tourist patterns
- "First Impressions of Tourism" assessment.

This report presents sustainable tourism indicators identified from public data sources in the Allegheny National Forest (ANF) region of Pennsylvania.

Sustainable Tourism Indicators from Secondary Data

Primary data, which are collected from specific communities and to answer specific questions, provide a firsthand understanding of the opportunities and challenges impacting visitors, local businesses, and other destination stakeholders. However, collecting such data requires significant resources, especially time. Secondary data, which are collected in larger-scale multipurpose surveys by federal or state agencies, are lower-cost and provide a breadth of data on the people, organizations, and places. Government agencies often offer free data for geographies across the nation and spanning multiple years allowing local stakeholders to quickly and readily monitor changes in a destination over time and compare characteristics and trends in their destination relative to other peer and aspirational places. The project team worked with local stakeholders to identify county-level indicators that can be used to quantify and describe tourism demand and destinations' economic, social, and environmental characteristics, and to monitor destination change especially considering recent events like the COVID-19 pandemic. To allow for comparisons across places, we provide both county-level estimates and data for the United States, the state of Pennsylvania, as well as counties classified as recreation-dependent by the USDA Economic Research Service, which are characterized by a high percentage of employment, earnings, and seasonal housing units in the recreation, entertainment, and hospitality sectors.

Delphi process

Given the breadth of data available, we needed to identify which data are most important to the goals of this study. We collaborated with destination stakeholders to identify the indicators that are known to be important to sustainable tourism and that stakeholders felt are most relevant to measuring change in and across these rural tourism destinations. This process of collaborating directly with local stakeholders is known as participatory research and offers a grounded understanding of problems and identifying practical solutions (McNiff & Whitehead, 2011). We employed the Delphi method, which provided a structured process to gather stakeholder opinions, summarize collective responses, and iteratively refine perspectives based on group feedback (Shang, 2023). Originally developed by the RAND Corporation in the 1950s for military planning, the Delphi method has since been applied across various fields where researcher-practitioner collaboration is essential (Kezar & Maxey, 2016; Keeney et al., 2001). It is particularly valuable for studying issues with incomplete knowledge, uncertain landscapes, or limited consensus (Kezar & Maxey, 2016), and has been identified as an effective method for selecting indicators when input is needed from diverse viewpoints (Freitas et al., 2018).

Table 1 shows the county level indicators identified in the literature and prioritized by the Delphi process.

Table 1. Selected Indicators from the Literature Review and Delphi Process

Economic	Social	Environmental
Total Employment	Population Trends	Air Quality (PM 2.5)
Employment by Industry Sector	Population Aged 25-44	Parks and Park Area
Leisure and Hospitality Employment (including arts, entertainment and recreation; accommodation and food services; select component sectors)	Educational Attainment	Water Pollution
Leisure and Hospitality Establishments	Race and Ethnicity	
Leisure and Hospitality Resilience	Income	
Full-service restaurants; Breweries, wineries, distilleries; Arts, Entertainment, and Recreation; Accommodation and Food Services per 100K population	Share of Employment	
Short term rental listings	Housing Characteristics (seasonal homes, median house value, median home age, affordability)	
	Violent and Property Crime	

Source: Authors

Travel and Tourism in the United States

According to the U.S. Travel Association's U.S. Travel Winter 2025 Forecast (Table 2, derived from Tourism Economics' travel forecasting model), travel expenditure in the U.S. will continue to grow, driven by robust consumer spending, sustained business investment and major events promoting international visits. For 2025, total U.S. travel spending is projected to grow 3.9% to $1.35 trillion, equaling 2019 levels (inflation-adjusted), with additional growth to $1.46 trillion (inflation-adjusted) by 2028.

U.S. Travel forecasts 8.8% growth for inbound international visits in 2025 and 8.9% growth in 2026. Growth in international visits to the U.S. remains an important factor in re-establishing travel as one of our most important exports, with more than $200 billion in international spending projected for 2025. Challenges include reduced visits from important regions including Asia, the risk of geopolitical tensions, policies that complicate and dissuade potential U.S. visitation and prolonged visa wait times for visitors from significant inbound markets.

Table 2. U.S. Travel Forecast

	ACTUAL					FORECAST				
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total # of trips	**2.40 B**	**1.60 B**	**2.04 B**	**2.30 B**	**2.37 B**	**2.43 B**	**2.50 B**	**2.56 B**	**2.62 B**	**2.68 B**
Domestic person-trips	**2.32 B**	**1.58 B**	**2.02 B**	**2.25 B**	**2.31 B**	**2.36 B**	**2.42 B**	**2.47 B**	**2.53 B**	**2.58 B**
Leisure	1.85 B	1.40 B	1.77 B	1.88 B	1.89 B	1.92 B	1.96 B	2.01 B	2.05 B	2.09 B
Business	463.9 M	181.3 M	249.5 M	370.9 M	413.1 M	436.0 M	454.5 M	467.4 M	478.7 M	488.3 M
Auto	2.13 B	1.50 B	1.88 B	2.08 B	2.12 B	2.16 B	2.21 B	2.26 B	2.31 B	2.36 B
Air	188.9 M	78.6 M	140.4 M	174.6 M	190.7 M	200.2 M	205.8 M	210.6 M	215.1 M	219.2 M
International arrivals	**79.4 M**	**19.2 M**	**22.1 M**	**50.8 M**	**66.5 M**	**72.4 M**	**78.8 M**	**85.8 M**	**91.2 M**	**95.0 M**
Canada	20.7 M	4.8 M	2.5 M	14.4 M	20.5 M	20.4 M	21.5 M	22.8 M	24.0 M	24.8 M
Mexico	18.3 M	6.8 M	10.4 M	12.4 M	14.5 M	17.1 M	18.6 M	20.3 M	21.2 M	21.7 M
Overseas	40.4 M	7.6 M	9.2 M	24.0 M	31.5 M	35.0 M	38.6 M	42.8 M	46.0 M	48.5 M

Source: U.S. Travel Association Travel Forecast Winter 2025. http://bit.ly/4faM4yB

Travel and Tourism in Pennsylvania

According to the Economic Impact of Travel and Tourism in Pennsylvania (2022) report published by Tourism Economics, the travel sector and tourism are integral parts of the Pennsylvania economy. Travelers generate significant economic benefits to households, businesses, and government. This economic activity represents a critical driver of the state's economy. In 2022, traveler activity supported 6.1% of all jobs in the state and the increase in visitor activity in 2022 created $420 million more in state and local governmental revenues.

Travelers and tourists spent $45.4 billion in PA in 2022, a nearly 20% increase from 2021 and just 1.5% below 2019's pre-pandemic level, according to the same report. The increase was driven by growth in business and overnight travel, with increases in both the number of higher-spending travelers and international arrivals.

Pennsylvania hosted an estimated 192.4 million travelers in 2022, a 6.8%, or 12.2 million, increase from the prior year. The increase was due to the 12% increase in the number of overnight travelers, with total visitation reaching 91% of its pre-pandemic (2019) level.

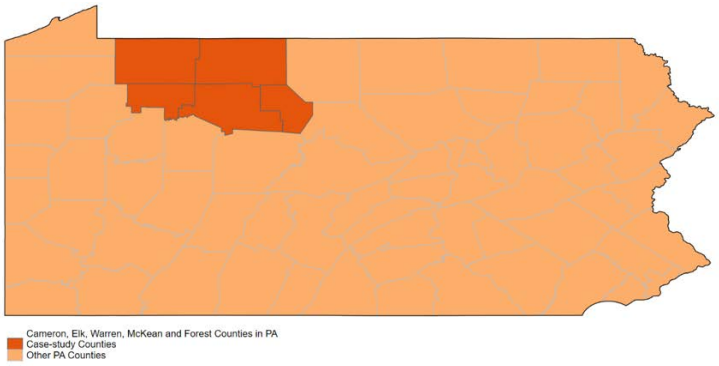
Domestic travelers spent an estimated $45 billion in Pennsylvania in 2022, a $9.3 billion increase from 2021.[1] The combined spending by overnight business and leisure travelers totaled an estimated $24.2 billion, accounting for close to 55% of total domestic traveler spend. The increase in the number of overnight travelers helped overnight traveler spending outpace that of the day-trip segment, with overnight visitor spending up 30% in 2022 compared to the 22% increase in day-trip visitor spending.

[1] See details at: https://dced.pa.gov/newsroom/new-report-reveals-that-tourism-generates-over-76-billion-for-pennsylvanias-economy-and-supports-485000-jobs/

2. Geographic Context

The five counties of the Allegheny National Forest region — Cameron, Elk, Warren, McKean and Forest Counties — form a contiguous block in northern Pennsylvania (Figure 1). The counties cover more than 3,500 square miles and represent a significant portion of the state's rural landscape (Table 3). Population density ranges from 44 persons per square mile in Warren County to less than 12 persons per square mile in Cameron County. As shown in Figure 1, these counties are strategically positioned in the northern tier of Pennsylvania, sharing borders with each other and creating a unified regional tourism economy. This area is known for its natural attractions, including the Allegheny National Forest, state parks, and outdoor recreation opportunities, which contribute significantly to their tourism-based economy. Nearly half (45%) of the region is actively managed for biodiversity protection and natural resource extraction. In Cameron and Elk Counties nearly two-thirds of the counties' land area is in protected lands.

Figure 1. Locations of Cameron, Elk, Warren, McKean and Forest Counties in PA



Source: Authors using US Census Bureau Tiger shape files.

Table 3. Land Area, Population Density, and Protected Lands

	Size (Miles^2)	Pop. Density per Miles^2 2020	Protected Land (Miles^2)	% of Total Area Protected as GAP 1-3*
Cameron	396	12	253	64%
Elk	827	38	502	61%
Forest	427	16	213	50%
McKean	980	41	317	32%
Warren	884	44	306	35%
PA	44742	291	8098	18%
U.S.	3533038	94	1159265	33%

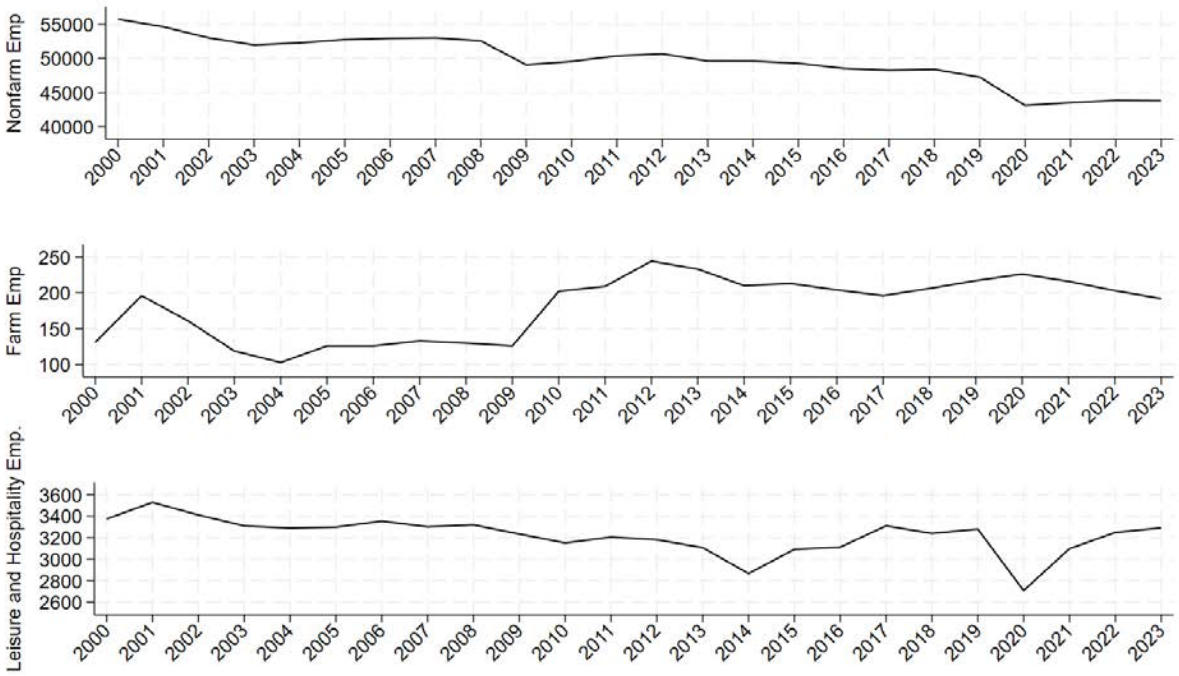
Source: Authors using U.S. Census QuickFacts and U.S. Geological Survey (USGS) Gap Analysis Project (GAP), 2024, Protected Areas Database of the United States (PAD-US) 4.0. *GAP 1-2 are actively managed for biodiversity; GAP 3 are managed for multiple uses including both conservation and extraction.

3. Employment and Industry Analysis

Overall Employment Trends

The region's employment trends can be examined using data from Quarterly Census of Employment and Wages (QCEW). Total employment in the five counties declined by about 18% since 2000, with impacts from the 2008-2009 recession, limited post-recession recovery, and sharp declines during the COVID-19 pandemic, followed by partial recovery (Figure 2). Farm employment has been steady but, with only 200 jobs, it represents less than one half a percent of nonfarm employment (0.4%). Also shown are Leisure and Hospitality employment.

Figure 2. Non-farm and Leisure and Hospitality (L&H) Employment in the Five Counties



Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.

Industry Composition

Analysis of current employment distribution (Table 4 and Figure 3) reveals distinct patterns across industries in these counties. The manufacturing sector maintains dominance in Cameron (46.5%) and Elk (42.6%) counties, while education and health services represent the largest employment sector in Forest County (36%). Trade, transportation, and utilities employ significant portions of the workforce in Warren (19.6%) and McKean (19.0%) counties.

Long-term employment changes from 2000 to 2023 (Figure 3) show varying trajectories for different sectors. The natural resources sector displayed distinctly different patterns from other industries, showing periods of significant growth that do not align with general economic

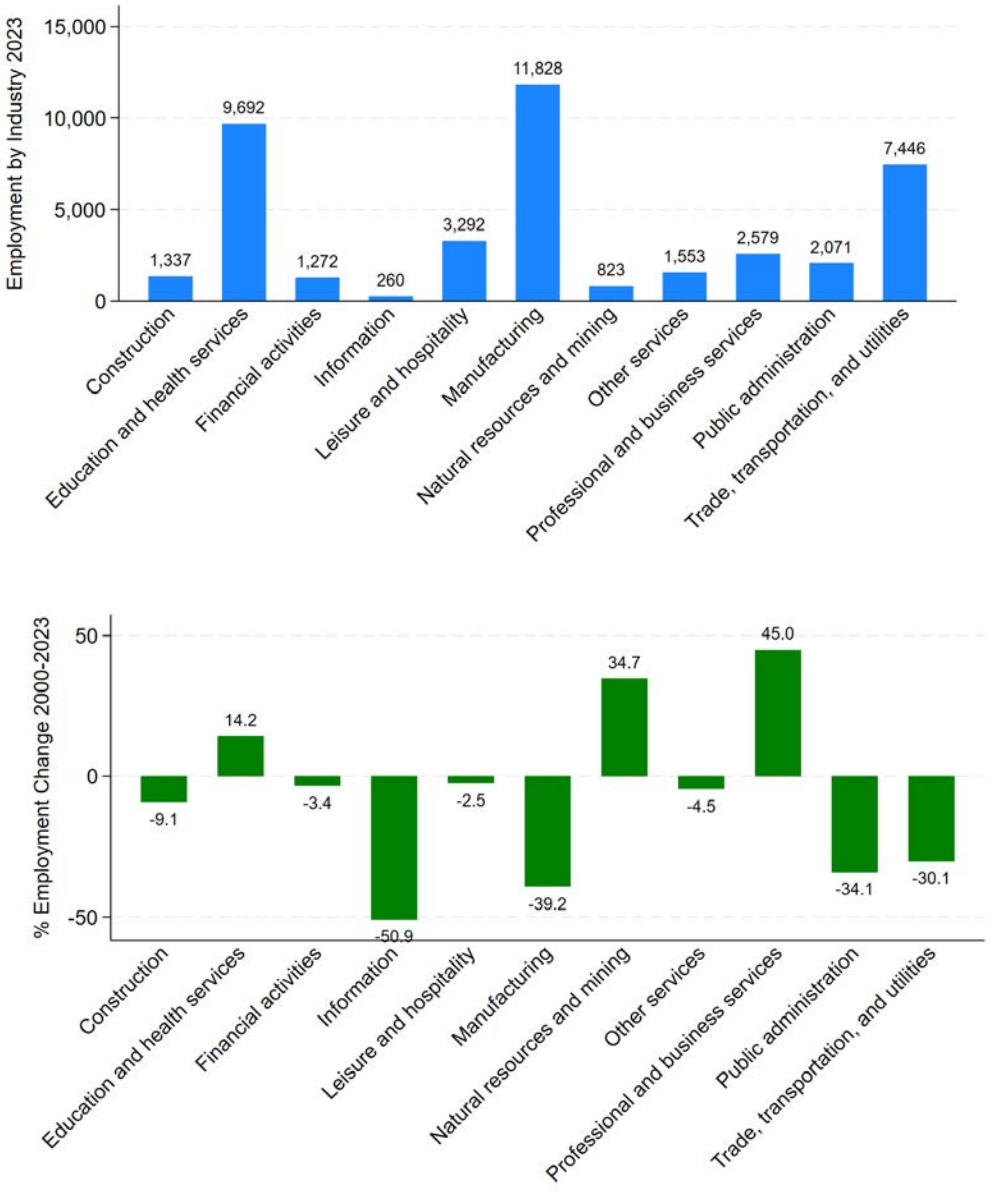
cycles. Manufacturing experienced the largest decline over this period, while education and health services showed the most growth. The natural resources sector experienced substantial growth between 2008 and 2012, primarily due to increased natural gas extraction activities in the region, demonstrating a trend that was countercyclical to the general economic downturn.

Table 4. Employment by Sector for Five PA Counties 2023

	Cameron		Elk		Forest		McKean		Warren	
Sector	No.	%	No.	%	No.	%	No.	%	No.	%
Natural resources and mining	14	0.9	80	0.6	37	3.6	439	3.2	253	2.0
Construction	22	1.4	491	3.7	28	2.7	540	3.9	256	2.0
Manufacturing	721	46.5	5,657	42.6	184	17.7	2,875	20.9	2,391	19.1
Trade, transportation, and utilities	150	9.7	2,081	15.7	144	13.8	2,619	19.0	2,452	19.6
Information	11	0.7	98	0.7	0	0.0	82	0.6	69	0.6
Financial activities	22	1.4	249	1.9	14	1.3	261	1.9	726	5.8
Professional and business services	49	3.2	614	4.6	11	1.1	885	6.4	1,020	8.1
Education and health services	281	18.1	2,165	16.3	375	36.0	3,524	25.6	3,347	26.7
Leisure and hospitality	126	8.1	925	7.0	176	16.9	1156	8.4	909	7.3
Other services	54	3.5	485	3.7	22	2.1	502	3.6	490	3.9
Public administration	99	6.4	428	3.2	50	4.8	881	6.4	613	4.9
Total	1,549	100	13,273	100	1,041	100	13,764	100	12,526	100

Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.

Figure 3. 2023 Employment by Industry (top) and Industry Employment Change 2000-2023 (bottom), five counties combined



Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics. The top panel shows **number** of employment, and the bottom panel shows **percentage changes** from 2000-2023.

4. Tourism Economy

Travel and Tourism in the Allegheny National Forest Region of Pennsylvania

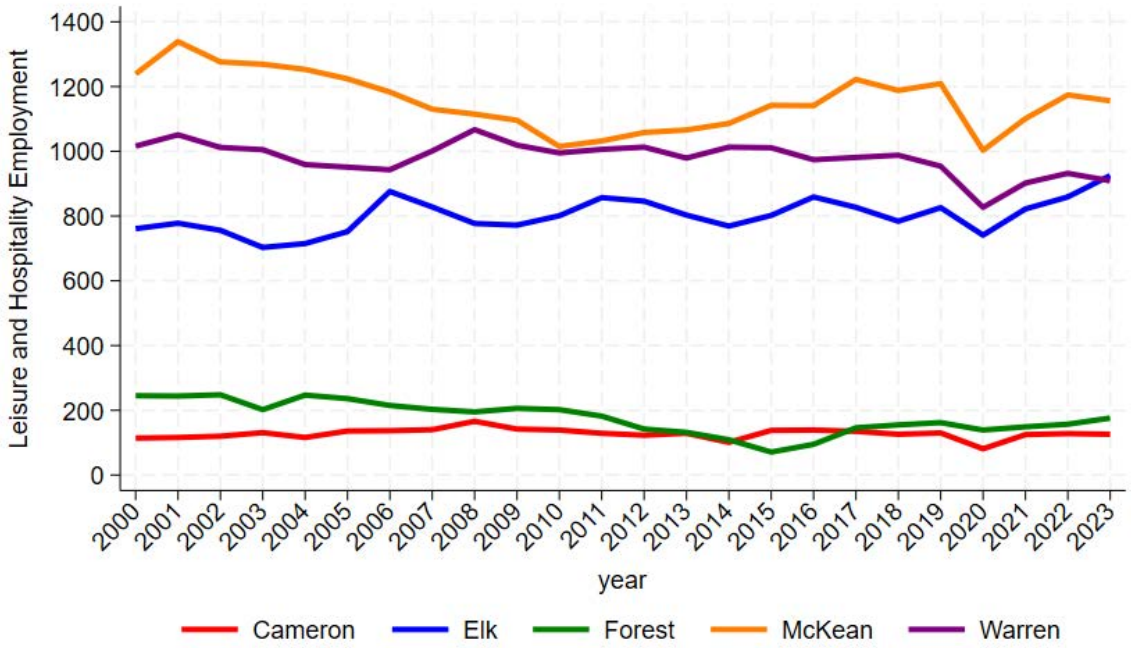
Tourism and leisure activity plays vital roles in the economic landscape of Pennsylvania's rural counties, particularly in the northern region of the state. The five counties of Cameron, Elk,

Warren, McKean, and Forest represent a significant rural tourism cluster that has experienced various economic challenges and transformations over the past two decades. This report examines the employment trends in these counties' Leisure and Hospitality (L&H) sector from 2000 to 2023, providing insights into the sector's resilience and vulnerabilities during major economic or other shocks.

Leisure and Hospitality (L&H) Employment Trends

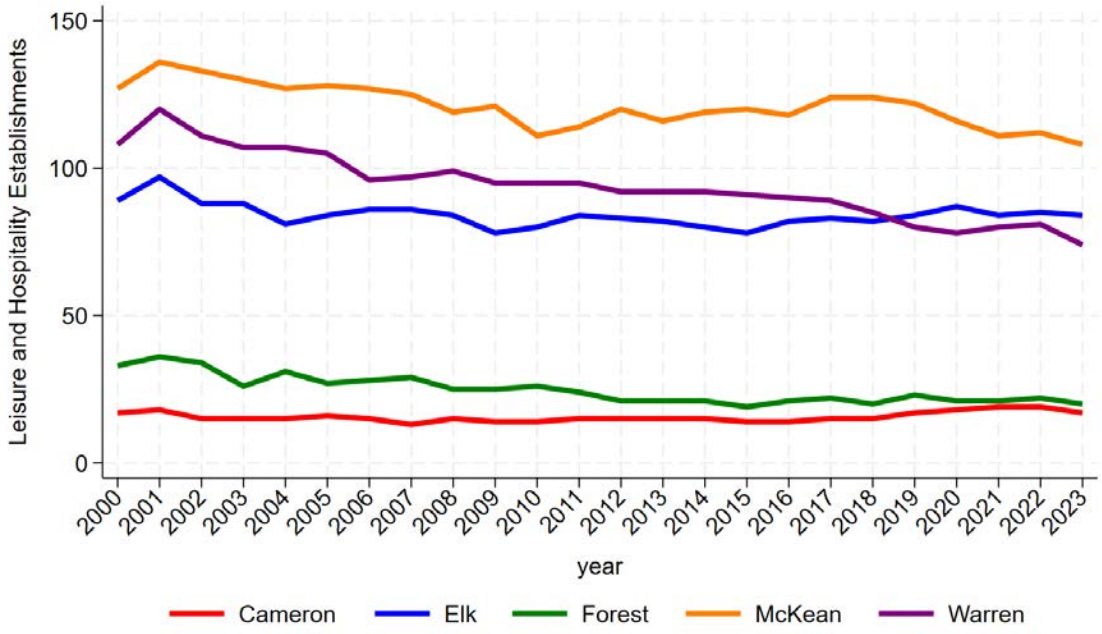
The L&H sector demonstrated notable volatility in both employment and establishment numbers from 2000 to 2023 (Figures 4 and 5). Total L&H employment across the five counties declined slightly from 3,375 jobs in 2000 to 3,292 jobs in 2023, with significant fluctuations throughout this period. The COVID-19 pandemic in 2020 severely impacted the L&H sector nationally as well as in these five counties, causing employment to drop to 2,710 jobs, the most dramatic decline in the observed period. Figure 6 illustrates that this decline of over 15% from pre-pandemic levels significantly exceeded the impact of the 2008 financial crisis. However, employment data show signs of resilience post-2021, with recovery to 3,292 jobs by 2023. This recovery pattern is further supported by Figure 5, which tracks the number of L&H establishments over time, showing a decline from 374 establishments in 2000 to 303 in 2023.

Figure 4. Leisure and Hospitality Employment for Five PA Counties 2000-2023



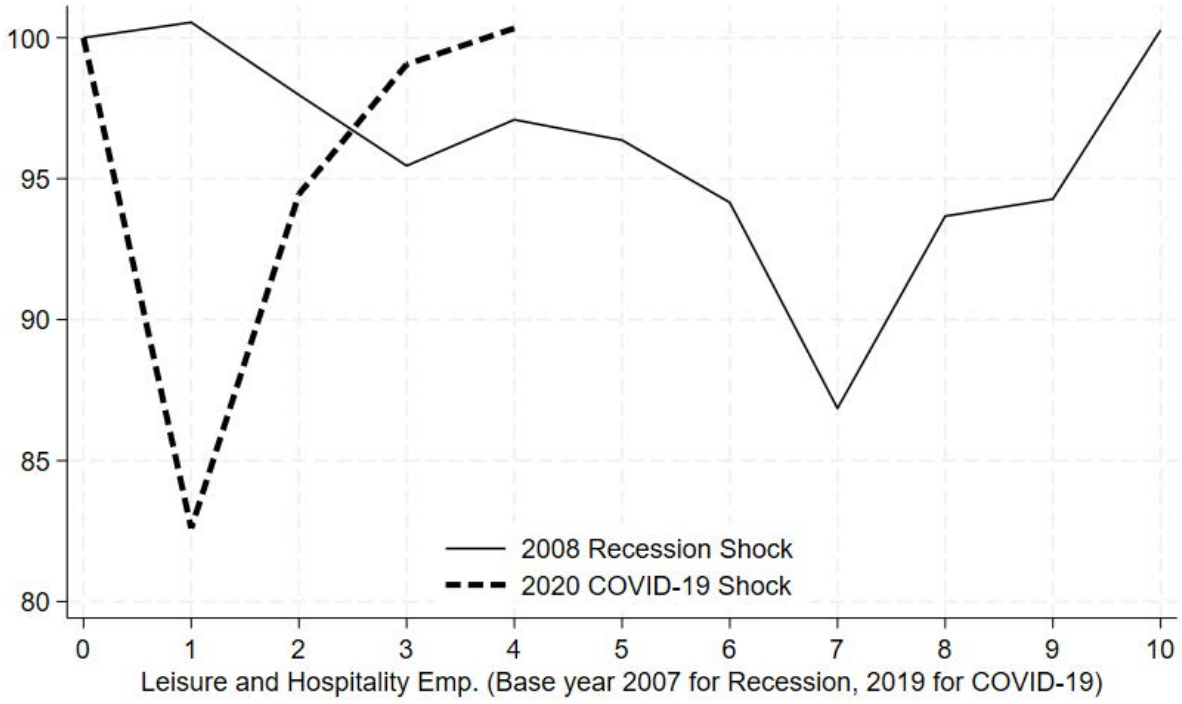
Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.

Figure 5. Leisure and Hospitality Establishment numbers for Five PA Counties 2000-2023



Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.

Figure 6. Leisure and Hospitality Resilience during the Great Recession and COVID-19 Shocks, 2000-2023



Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.

Tourism Assets

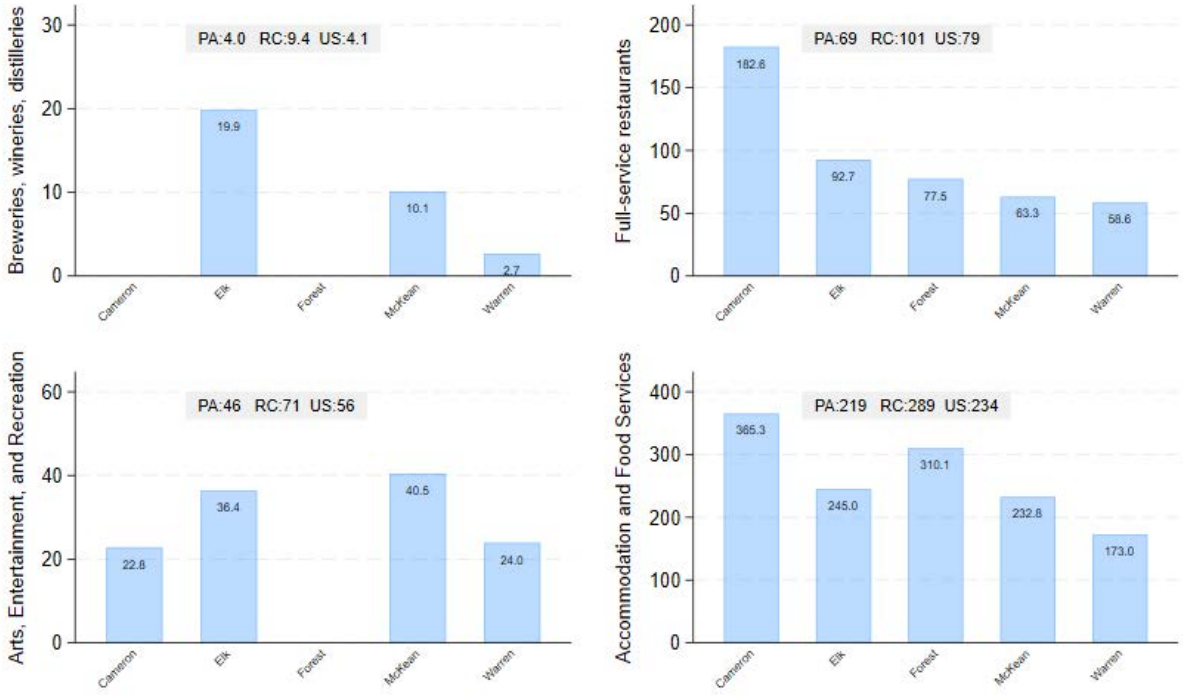
While the number of arts, entertainment, and recreation establishments per 100,000 population is lower than in all comparison regions, the study region does have a well-developed accommodation and food service sector. Except for Warren County (173 establishments per 100k population) all counties in the region had levels equal to or greater than the state and national averages, and in Forest and Cameron Counties (310 and 356, respectively) greater that the average for tourism-dependent counties.

The availability of restaurants and other food-away-from-home (FAFH) outlets varies across rural counties, and those that depend on natural amenities, tourism, and recreation generally provide more options for dining out. Prior to the COVID-19 pandemic, the rural counties with economies depending on recreation had more FAFH establishments per capita than did rural counties with other leading industries.[2] Three of the five counties (Forest, McKean, and Warren) have a number of full service restaurants comparable to state and national averages; however, only Elk County (183) had more full-service restaurants per 100k population than the tourism-dependent county average.

Craft beverages can play a significant role in tourism, attracting visitors seeking unique, local experiences; we report the average number of establishments providing such services per 100,000 population in each county. Local breweries, wineries, and distilleries are found in three of the five counties (Figure 7). For comparative purposes, we also present average numbers for all Pennsylvania counties (PA), for all counties classified as Recreation-dependent Counties (RC), and for all US counties (US). RC counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. While the number of craft beverage establishments in Warren County (2.7 per 100,000 population) is just below the Pennsylvania and U.S. means, both McKean (10.1) and Elk (19.9) are equal to or greater than the state, nation, and average for RC counties.

[2] Source: https://www.ers.usda.gov/amber-waves/2023/august/among-rural-u-s-counties-those-with-recreation-dependent-economies-had-most-options-per-capita-for-dining-out-in-2019

Figure 7. Full-service restaurants; Breweries, wineries, distilleries; Arts, Entertainment, and Recreation; Accommodation and Food Services per 100K population 2023.



Source: Authors using Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics. PA indicates the means for Pennsylvania. RC indicates means for Recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Table 5. Short-Term rental listings 2019-2024 (AirBnB, VRBO), by county

County	2019	2020	2021	2022	2023	2024	% change 2019-2024	growth rate 2019-2024
Cameron	14	19	22	31	49	55	293%	3.93
Elk	84	112	140	195	245	269	220%	3.20
Forest	31	45	53	72	97	101	226%	3.26
McKean	77	116	129	151	191	204	165%	2.65
Warren	108	163	219	268	300	323	199%	2.99

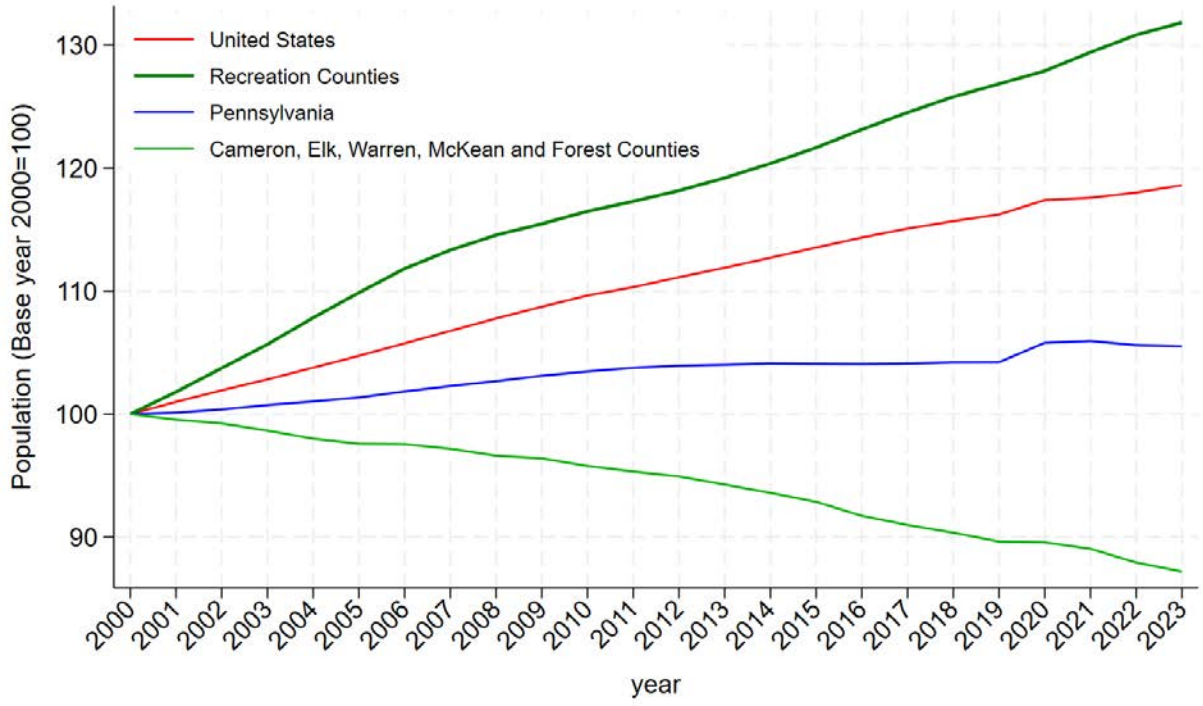
Source: Authors using KeyData from https://www.keydatadashboard.com/.

5. Quality of Life Indicators

Population and Demographics

Population trends across the five counties show consistent decline since 2000 (Figure 8). All counties have experienced negative growth rates that significantly lag behind Pennsylvania state, recreation counties, and national averages. As shown in Figure 9, McKean County has the largest population among the five counties at approximately 40,000 residents, followed by Warren and Elk counties with populations near 38,000 and 30,000 respectively. Cameron and Forest counties have notably smaller populations, with under 7,000 residents each.

Figure 8. Population Trends for Cameron, Elk, Warren, McKean and Forest Counties and Comparison Geographies



Source: Authors using the US Census Bureau.

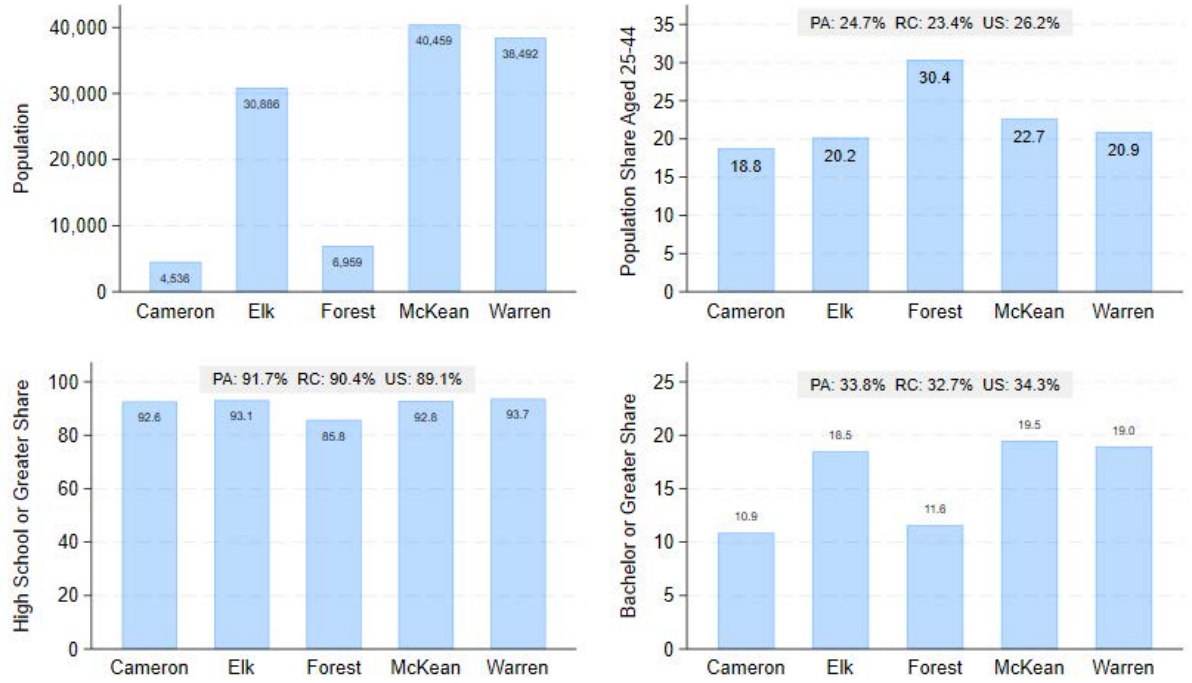
In Figure 9, the age composition of these counties reveals different demographic patterns, when compared to the nation. The nation's percentage of the population aged 25-44, a crucial working-age demographic, is 26.2%. The population shares of this demographic in Cameron and Elk are significantly below the national and state averages.

Education and Workforce

Educational attainment patterns reveal mixed results across the region (Figure 9). High school completion rates generally range from 86% to 94% across the counties. However, bachelor's degree attainment presents a different picture. McKean County and Warren County

lead the region in higher education attainment at approximately 20%, while Cameron County shows the lowest rate at about 11%. The national average of population with a bachelor's degree is 34.3%. All five counties are below the national and state averages. The extremely low levels for Cameron and Forest counites could be a concern for the regional economic development.

Figure 9. Population and Educational Attainment in Cameron, Elk, Warren, McKean and Forest Counties, 2018-2022

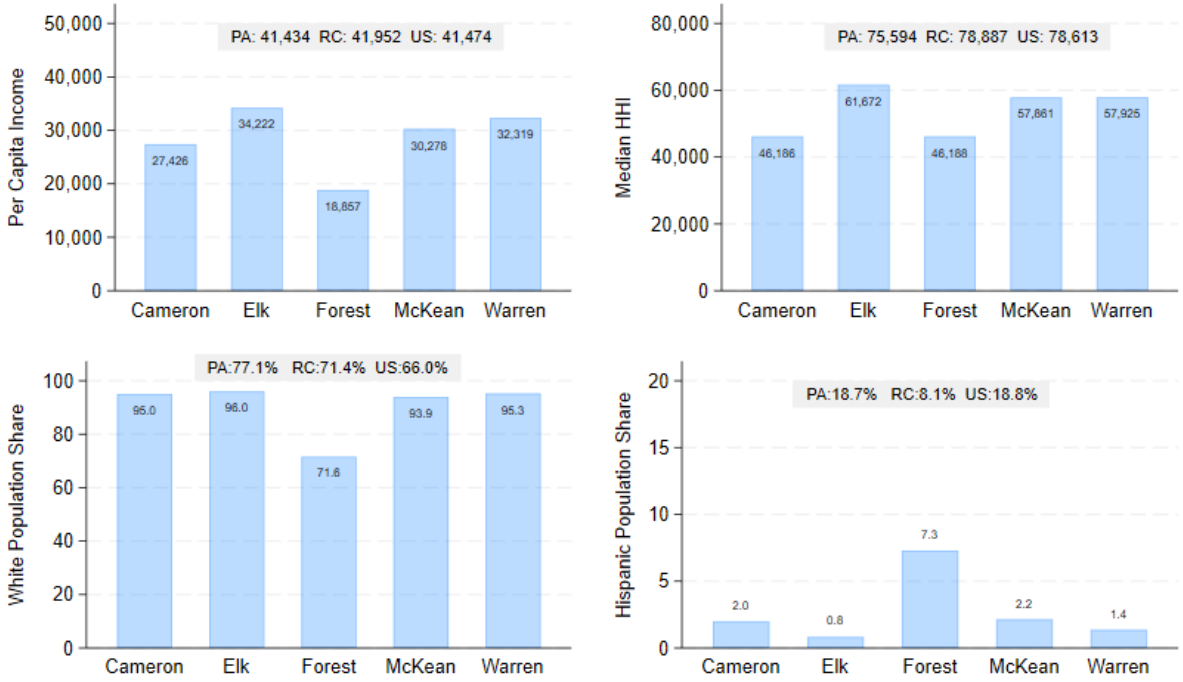


Source: Authors using 2018-2022 5-year American Community Survey. The population includes persons in housing units and persons in group quarters. PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Income

Income metrics reveal persistent economic challenges (Figure 10). Elk County leads in both per capita income and median household income, with median household income over $60,000 and per capita income over $30,000. Forest County shows the lowest income levels among the five counties. Also, in Figure 10, is the population composition of the five PA counties with the averages of PA, the nation, and tourism-dependent counties indicating that the population is largely white with little racial diversity.

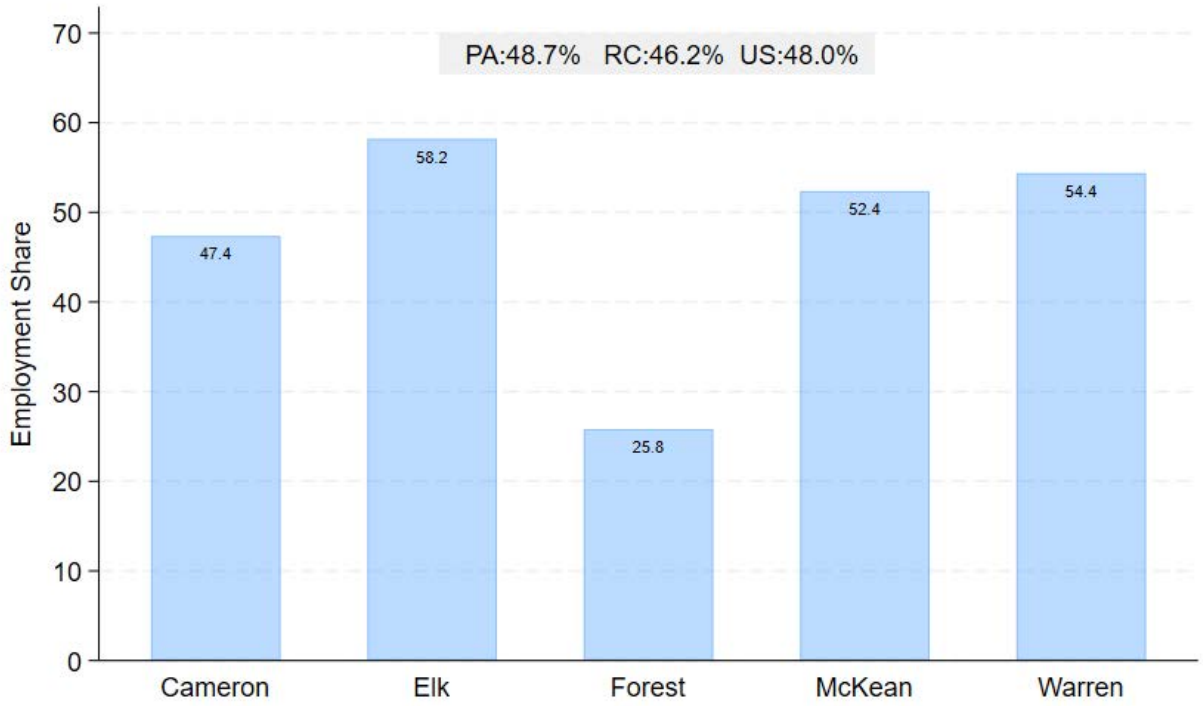
Figure 10. Income and Population Composition in Cameron, Elk, Warren, McKean and Forest Counties, 2018-2022



Source: Authors using 2018-2022 5-year American Community Survey. The population includes both persons in housing units and persons in group quarters. PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Figure 11 presents additional workforce indicators for employment rates across counties. Elk County shows the highest employment rate, while Forest County exhibits the lowest.

Figure 11. Employment Rate in Cameron, Elk, Warren, McKean and Forest Counties, 2018-2022



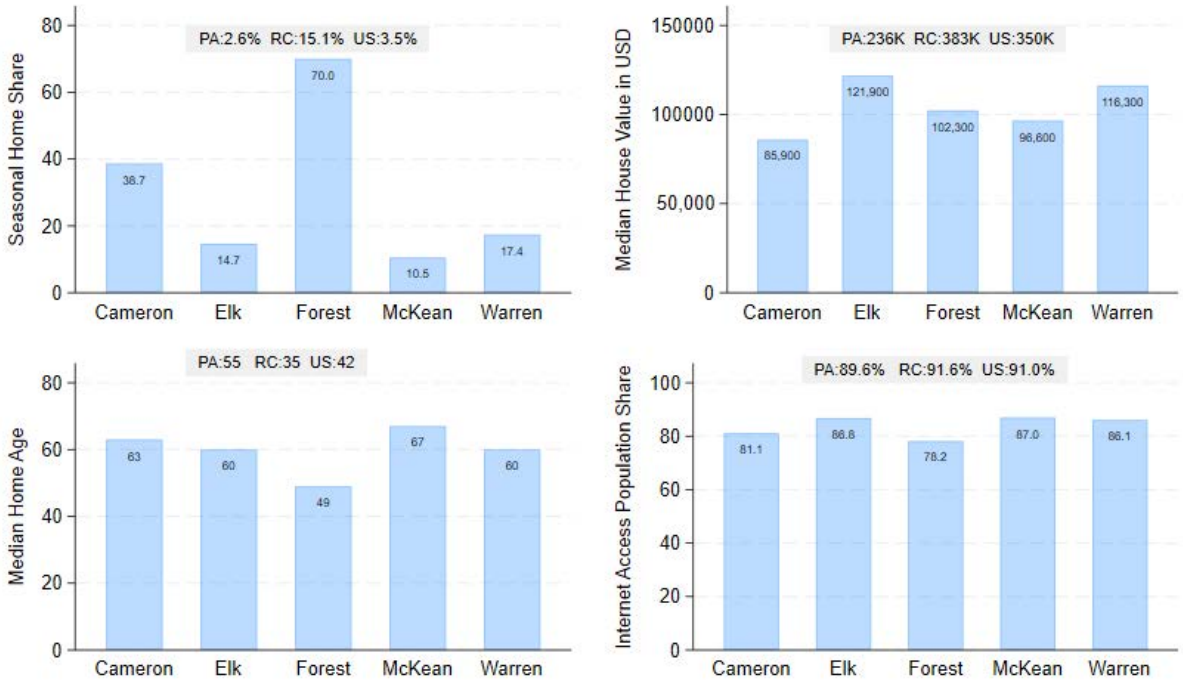
Source: Authors using 2018-2022 5-year American Community Survey. The population includes both persons in housing units and persons in group quarters. PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Housing Characteristics

Housing patterns reveal unique aspects of these rural economies (Figure 12). Median house values vary significantly across counties, with Elk County showing the highest values and Cameron County the lowest. The figure also provides important data on internet access across the counties.

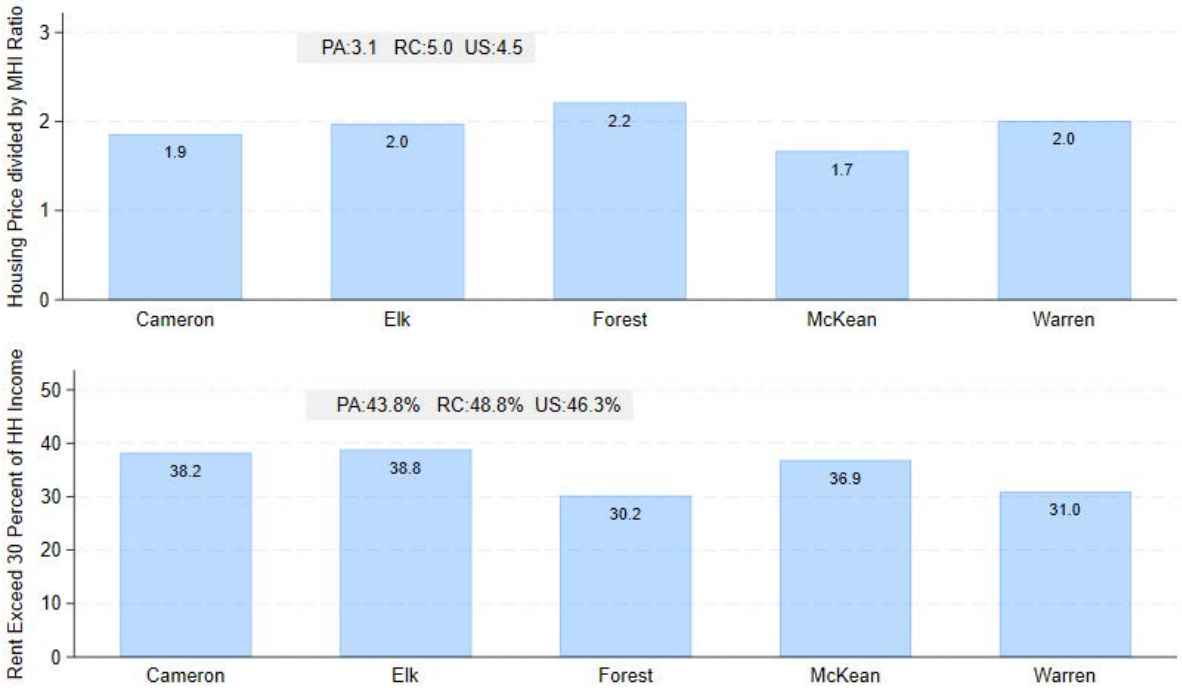
A distinctive feature of these counties is their high proportion of seasonal homes, as shown in Figure 12. Forest County stands out with 70% of housing units classified as seasonal or recreational, significantly higher than other counties. This high seasonal occupancy rate reflects the region's role as a recreation and tourism destination while potentially affecting local housing markets and community dynamics. Figure 13 shows housing affordability, indicating that both housing rent and ownership are generally affordable in these five counties, compared to the state, the nation, and tourism-dependent counties.

Figure 12. Housing Characteristics and Share of Population with Internet Access in Cameron, Elk, Warren, McKean and Forest Counties, 2018-2022



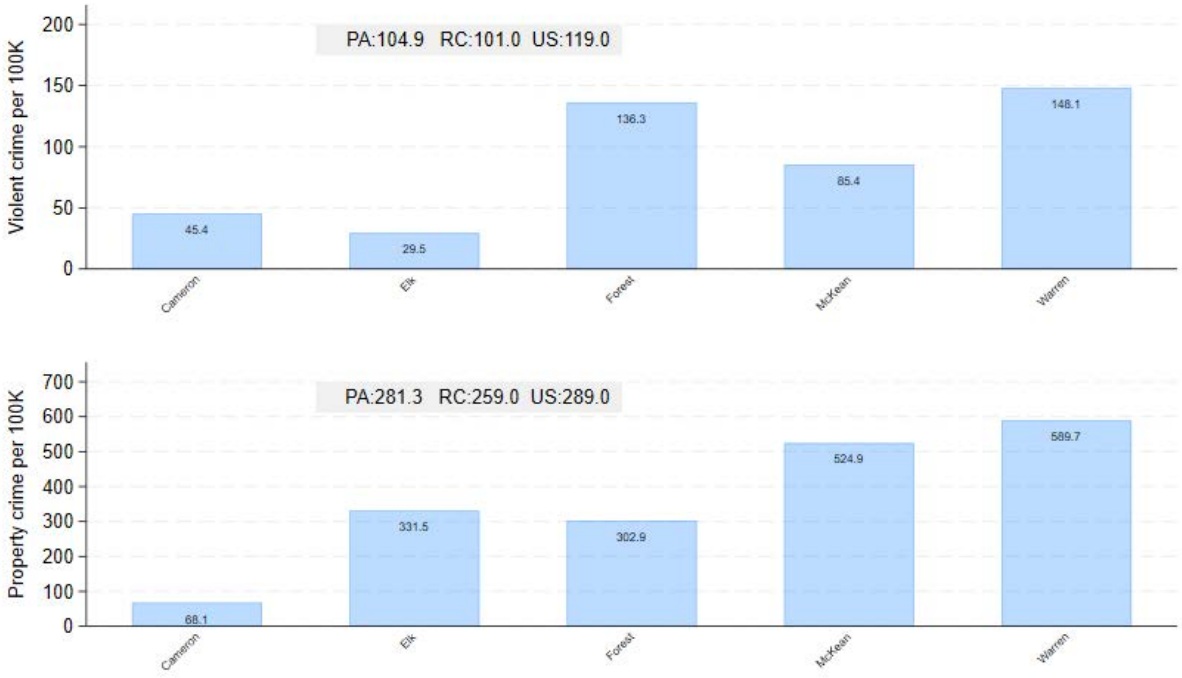
Source: Authors using 2018-2022 5-year American Community Survey. The population includes both persons in housing units and persons in group quarters. PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Figure 13. Housing Affordability and Rent Burden in Cameron, Elk, Warren, McKean and Forest Counties, 2018-2022



Source: Authors using 2018-2022 5-year American Community Survey. The population includes both persons in housing units and persons in group quarters. PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

Figure 14. Violent and property crime 2022 per 100K population for Five PA Counties



Source: Authors using Inter-university Consortium for Political and Social Research (ICPSR). PA indicates the means for Pennsylvania. RC indicates means for recreation-dependent counties. Recreation-dependent counties are defined by USDA-ERS based on 1) tourism-related jobs 2) tourism earnings 3) the share of vacant secondary homes. US indicates the means for USA.

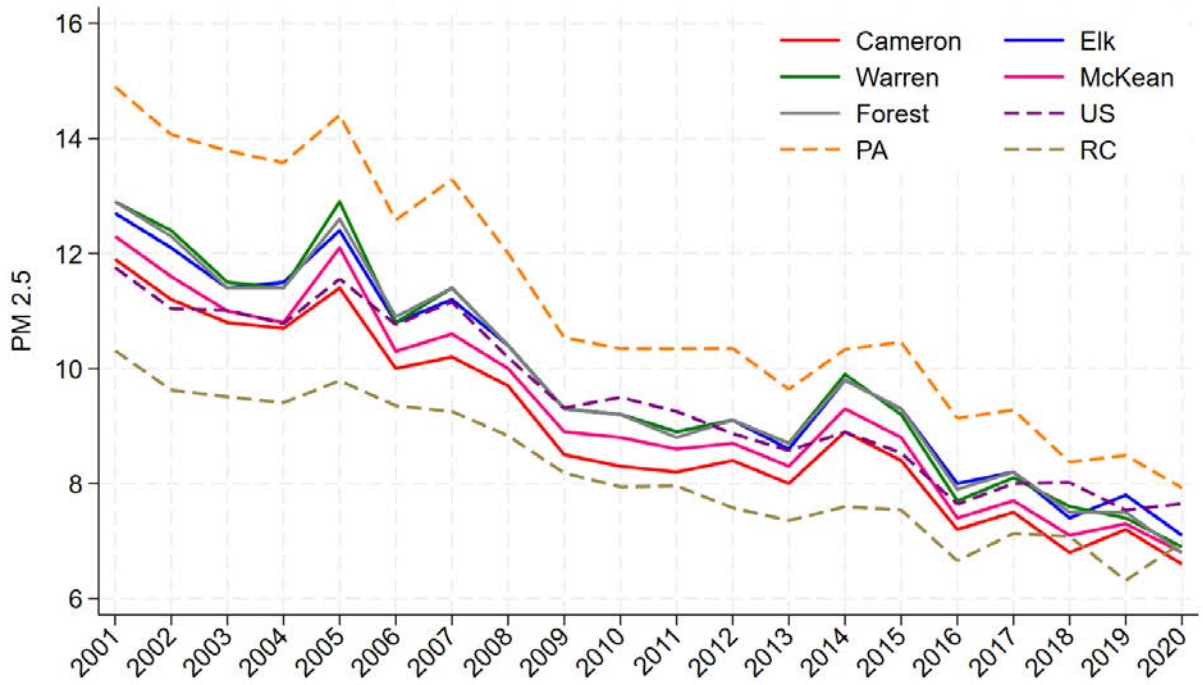
Figure 13 reveals housing affordability challenges across five Pennsylvania counties. The housing price-to-median household income ratio shows Forest County with the highest burden (2.2), while McKean has the lowest (1.7), all below the PA average of 3.1 and the US average of 4.5. For rental burden, all households spend over 30% of income on rent across all counties, with McKean at 36.9% and Forest at 30.2%, all below the PA average of 43.8%. This suggests that while these rural counties have more affordable housing than state averages, roughly one-third of renters still face significant cost burdens.

Figure 14 demonstrates stark differences in crime rates between these counties. For violent crime, rates range from extremely low in Elk (29.5 per 100K) to concerning levels in Warren (148.1) and Forest (136.3). Property crime shows more variation, with Warren experiencing the highest rate (589.7 per 100K), followed by McKean (524.9), while Cameron has remarkably low property crime (68.1). The data indicate that recreation-dependent counties (RC average: 259.0) generally have lower property crime rates than the state average (281.3), suggesting these tourism-oriented areas may benefit from stronger community cohesion or seasonal population fluctuations that reduce crime opportunities.

6. Environmental Indicators

The environmental quality of these counties can be assessed through several key metrics. Figure 15 tracks PM 2.5 levels (a measure of particulate matter found in the air) from 2001 to 2020, showing generally improving air quality trends across all five counties. The data, sourced from the CDC National Environmental Public Health Tracking Network, indicates that air quality in these counties has generally remained within acceptable ranges, likely benefiting from their rural location and extensive forest cover, as well as the general national trend of better air quality overall.

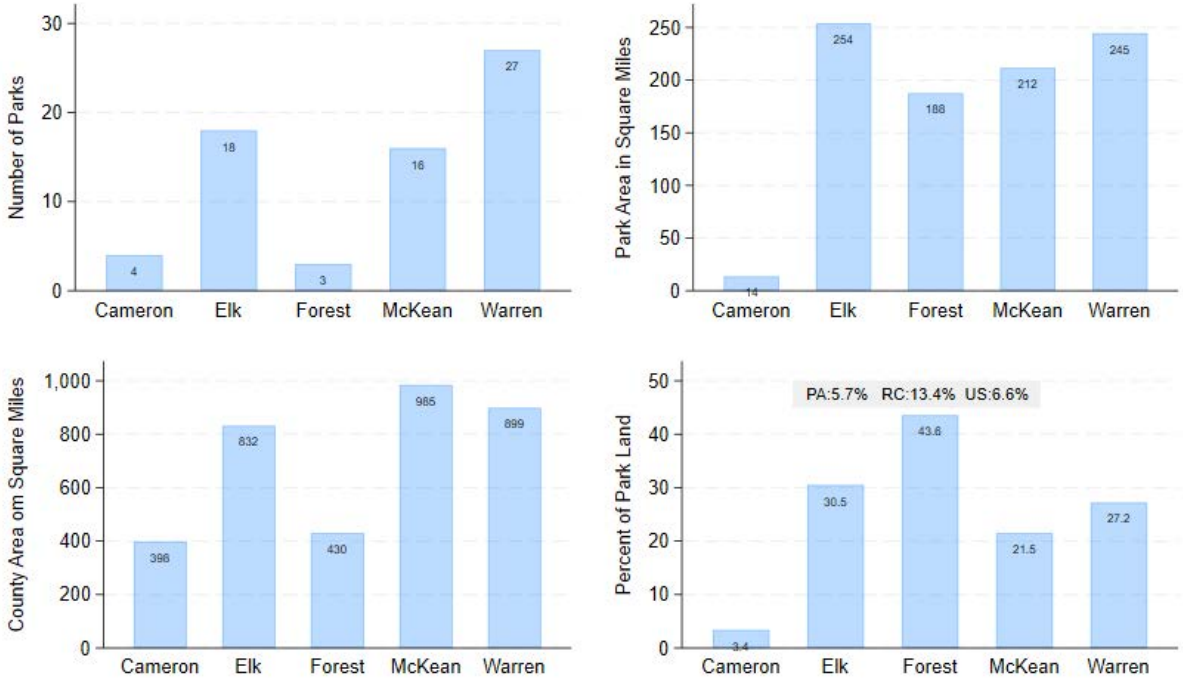
Figure 15. PM 2.5 2001-2020



Source: Authors using CDC National Environmental Public Health Tracking Network with the most recent source year 2020 from https://ephtracking.cdc.gov/DataExplorer/

Figure 16 provides a comprehensive overview of parkland resources across the five counties, showing the number of parks, total park area, land area, and the share of park area in each county. This data highlights the significant natural recreational resources available in the region, supporting both quality of life for residents and tourism opportunities.

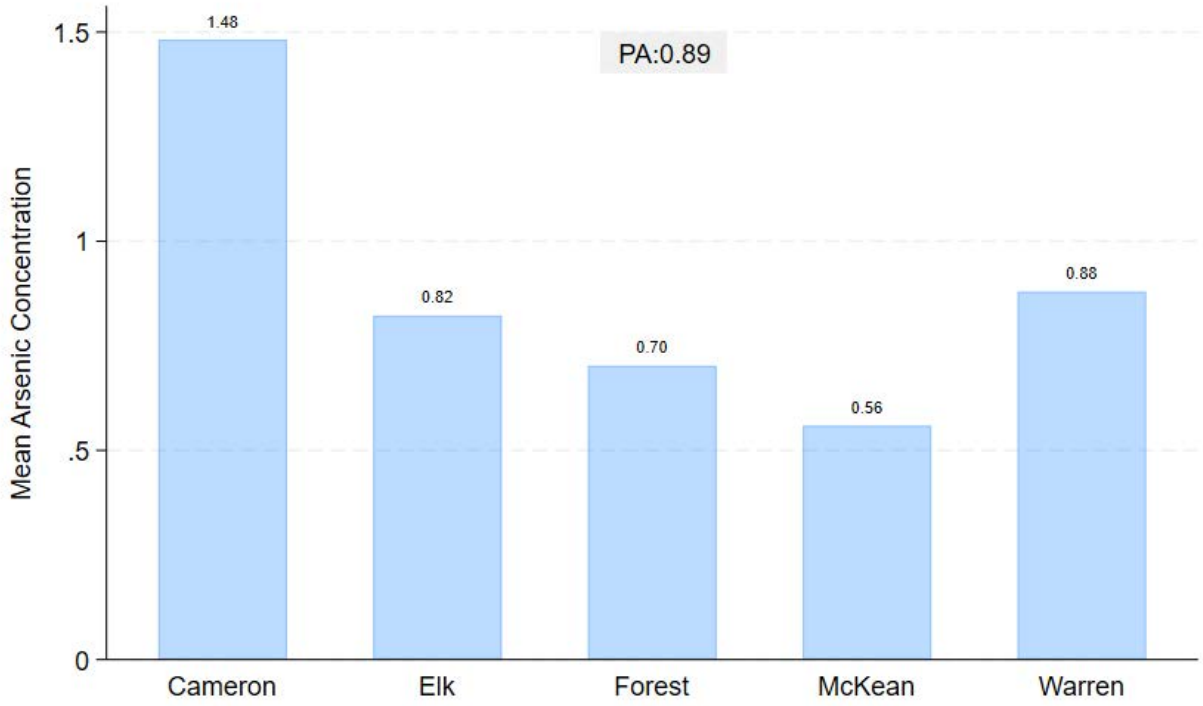
Figure 16. Number of Parks, Park Area, Land Area, and Share of Park Area in Five Counties 2022



Source: Authors using National Neighborhood Data Archive. Parks refer to all the parks including public parks, some national and state parks, school and private parks w/public access.

Water quality, another crucial environmental indicator, is examined through arsenic concentration levels as shown in Figure 17. Based on 2018 data from the PA Department of Health, the counties show varying levels of arsenic concentration, with implications for both residential water use and environmental health. This data suggests the need for continued monitoring and management of water resources across the region.

Figure 17. Water Pollution measured as Arsenic Concentration (ug/l) in 2018



Source: Authors using PA Department of Health with the most recent source year 2018 from https://www.phaim1.health.pa.gov/EDD/WebForms/WaterCntySt.aspx

7. Recommendations and Policy Implications

The data presented here suggest that economic development strategies should focus on sector diversification, supporting expansion in education and health services while investing in professional and business services infrastructure. Tourism development should be part of a diversified economic development strategy with an overall goal of improving the quality of life for local residents by leveraging high seasonal home ownership and investing in year-round attractions while preserving natural amenities.

Workforce development initiatives should address the aging workforce through targeted retention and attraction programs, enhanced educational opportunities aligned with growth sectors, and improved skills training for tourism and hospitality workers.

Regional collaboration emerges as a critical strategy, with opportunities for coordinated tourism marketing efforts, shared workforce development resources, and complementary economic development approaches across counties. A commitment to sustainable destination management is critical.

Environmental management deserves particular attention given the region's natural assets and challenges. The improving air quality trends demonstrate effective environmental

stewardship that should be maintained, while varying water quality conditions across counties suggest the need for coordinated watershed management approaches. The significant parkland resources present opportunities for expanded outdoor recreation and tourism development, but careful planning will be needed to balance increased visitor usage with environmental preservation. Counties should consider developing integrated environmental monitoring systems and shared conservation strategies to protect these valuable natural resources.

The data suggests these counties face significant challenges but retain important assets in their natural amenities, manufacturing base, and tourism potential. Success will require balanced development that preserves natural resources while fostering economic growth and improved quality of life for residents.

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Appendix:

Table A1 Leisure and Hospitality Employment for Five PA Counties 2000-2023

Year	Cameron	Elk	Forest	McKean	Warren	Total
2000	114	761	245	1239	1016	3375
2001	116	778	244	1339	1051	3528
2002	120	756	248	1276	1012	3412
2003	131	703	202	1269	1005	3310
2004	116	715	247	1253	959	3290
2005	136	752	236	1224	951	3299
2006	137	876	215	1183	943	3354
2007	140	828	203	1130	1001	3302
2008	166	777	195	1115	1067	3320
2009	142	772	206	1096	1019	3235
2010	139	801	202	1015	995	3152
2011	129	857	182	1032	1006	3206
2012	123	846	142	1058	1013	3182
2013	129	803	132	1066	979	3109
2014	101	769	109	1086	1013	2868
2015	138	802	71	1142	1011	3093
2016	139	859	95	1141	974	3113
2017	135	827	146	1222	981	3311
2018	126	784	155	1188	988	3241
2019	130	826	162	1209	954	3281
2020	81	741	139	1003	827	2710
2021	125	822	149	1101	902	3099
2022	128	859	157	1174	932	3250
2023	126	925	176	1156	909	3292

Note: Source is from Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics. Due to QCEW data disclosure requirements, the highlighted employment numbers are derived from Tapestry data.

Table A2 Leisure and Hospitality Establishment for Five PA Counties 2000-2023

Year	Cameron	Elk	Forest	McKean	Warren	Total
2000	17	89	33	127	108	374
2001	18	97	36	136	120	407
2002	15	88	34	133	111	381
2003	15	88	26	130	107	366
2004	15	81	31	127	107	361
2005	16	84	27	128	105	360
2006	15	86	28	127	96	352
2007	13	86	29	125	97	350
2008	15	84	25	119	99	342
2009	14	78	25	121	95	333
2010	14	80	26	111	95	326
2011	15	84	24	114	95	332
2012	15	83	21	120	92	331
2013	15	82	21	116	92	326
2014	15	80	21	119	92	327
2015	14	78	19	120	91	322
2016	14	82	21	118	90	325
2017	15	83	22	124	89	333
2018	15	82	20	124	85	326
2019	17	84	23	122	80	326
2020	18	87	21	116	78	320
2021	19	84	21	111	80	315
2022	19	85	22	112	81	319
2023	17	84	20	108	74	303

Note: Source is from Quarterly Census of Employment and Wages from U.S. Bureau of Labor Statistics.