Social and Economic Effects

Affected Environment

History

Native American Cultures

Paleo-Indians are believed to have been the first humans to reach the area that is now Ohio, approximately 12,000 years ago. These nomadic peoples hunted large game such as the mastodon, elk, and caribou that migrated into Ohio after the glaciers retreated northward. With continued warming, the Ohio territory became increasingly deciduous. Consequently, during the Archaic Period (ca. 8,000 - 1,000 B.C.) people were able to eat a broader variety of plant and animal species that were supported by a more temperate environment. Late within this period, horticulture and burial rituals began. The Woodland Period (ca. 1,000 B.C. - A.D. 1,200) was characterized by more stationary lifestyles that allowed the development of agriculture, the manufacture of ceramics, and elaborate burial practices. Burial of the dead in constructed earthen mounds was common in Early (Adena) and Middle (Hopewell) Woodland times. The Hopewell people established extensive trade networks across the country to obtain raw materials to fashion exotic items to bury with their dead. Grave goods were made out of copper from Lake Superior, mica from North Carolina and Tennessee, silver from Canada, obsidian from Wyoming, and marine shell from the Gulf of Mexico.

The Late Woodland people, probably the descendants of Middle Woodland groups, discontinued their ancestors' mound-building and extensive trading activities. However, the Late Woodland people appear to have been more successful at growing crops, and they lived in larger communities than earlier groups. Finally, the late prehistoric Fort Ancient people (ca. 1000 - A.D. 1650) lived in large floodplain villages often organized around central plazas as well as in upland hunting camps. Mortuary practices were not as complex as those of the Hopewell, and they became more dependent on maize agriculture than on hunting and gathering.

Southeastern Ohio was apparently abandoned in very late prehistoric times. The people either emigrated to avoid conflicts with tribes farther east seeking control over fur trade with Europeans on the East Coast, or they succumbed to diseases that originated in the European colonies and were passed from one Indian settlement to another.

Immediately prior to the arrival of American settlers (primarily of Europe descent), southeastern Ohio had no permanently settled native groups. Historic Native American tribes such as the Shawnee, Wyandotte, and Delaware lived and hunted extensively in southeastern Ohio in nomadic

groups instead of large villages. Their primary settlements appear to have been further west in the Scioto and Miami River Valleys.

Frontier and Statehood

The first European explorers reached the Ohio territory around 1650. Documents including observations of their travels are the earliest written accounts of the area. Prior to the War for American Independence, the land in present-day Ohio was claimed by Great Britain. In the late 18th century, British colonial authorities prohibited settlement west and north of the Ohio River. However, frequent hunting and exploring expeditions on Indian land led to inevitable conflicts.

Following the War for Independence, the land from the Appalachian Mountains to the Mississippi River was ceded to the new United States of America in treaty with England (Beard and Beard, 1930). At that time, the States of Connecticut, New York, Pennsylvania, and Virginia all laid claim to the new territory; however, by 1786, all of those separate claims had been ceded to the central government functioning under the Articles of Confederation (Brown, 1922). In return for ceding their larger, and conflicting, claims, Virginia and Connecticut retained rights to 4.2 million and 3 million acres, respectively. Congress intended to grant these lands to veterans of the American Revolution or survivors of soldiers who died in the conflict. George Washington, himself a surveyor who had visited Ohio in 1754, received a warrant for 23,333 acres in Ohio, though he never claimed this land. To help veterans locate and settle their land without unnecessary disputes, Congress passed the Public Lands Act of 1785, directing that the new territories be surveyed on a grid, with tracts six miles square called townships (Dean and Speas). Lands not claimed by Revolutionary War veterans would be sold to help the government repay the costs of fighting the war.

The earliest and heaviest settlement of Ohio in the 18th century occurred in the southeastern region not only because Marietta was the first settlement within the Northwest Territory, but because it is geographically close to Pennsylvania and Virginia, from which the majority of early settlers came.

In 1787, Congress passed “An Ordinance for the Government of the Territory of the United States Northwest of the River Ohio”, more commonly referred to as the Northwest Ordinance of 1787. This historic legislation achieved several important results. First, it allowed for the sale of lands in the Northwest Territory to land companies and private citizens. Second, it administered the settlement of the new lands through territorial governments. Third, it laid out the method by which the new territories would eventually gain statehood. Fourth, Congress forbade slavery in the new territories or states, but allowed owners to reclaim escape slaves who had crossed the Ohio River, a momentous decision that would have

significant repercussions for people of southern Ohio. And fifth, Congress established what would become basic tenets for the relationship between the Federal government and the States.

Soon after adopting the Northwest Ordinance of 1787, Congress began selling large tracts of Ohio land to land companies, which would survey and sell the individual parcels within the sections to settlers. The first of these was the purchase of 1.5 million acres along the Ohio River to the Ohio Company, headed by several officers of the Revolutionary War, including General Rufus Putnam.

General Anthony Wayne, for whom the Forest is named, was a celebrated Revolutionary War soldier. In 1792, he came out of retirement to take command of the U. S. Army of the Northwest, appointed by President George Washington to defend the American frontier against Indian attacks. After several years spent constructing fortifications, Wayne's move against the Shawnee Nation culminated in the Battle of Fallen Timbers. Upon defeating the Indians at Fallen Timbers, Wayne's negotiations eventually resulted in the 1795 Treaty of Greenville. By defining the boundaries of Indian and settlers' land in Ohio, the treaty facilitated settlement far up the tributaries of the Ohio River.

In 1800, Congress passed the Harrison Land Act, designed to further expedite the selling of Federal lands in the Northwest Territories. The Act, proposed by future President William Henry Harrison, established Federal land offices that would identify available Federal lands and accept bids from potential buyers, who were allowed to buy the property on credit. The first Federal land office opened in Steubenville, Ohio, July 1800. The response was immediate. By 1803, the Ohio territory's population had reached 60,000, the level required for statehood, and Ohio entered the Union on March 1, 1803.

The earliest and heaviest settlement was in the southeastern part of the State, closest to Pennsylvania and Virginia – which provided most of the settlers. Early settlers were primarily of English, Welsh, Scottish, and Irish descent. Over the next 20 years, land offices sold more than 9 million acres in Ohio. In 1832, Congress lowered the minimum purchase of Federal land from 320 acres to 40 acres. Federal land offices remained in operation in Ohio until 1866.

Early African American History and the Underground Railroad Movement

By the 1820s, several thousand African Americans had settled in Ohio, but early slave laws discouraged their settlement. In spite of the severe fines and legal penalties, Ohioans were quite active in aiding fugitive slaves on their journey north on the Underground Railroad to freedom. A number of small black communities sprang up in southeastern Ohio and quite often served as "stations" along this network of safe houses.

For African Americans enslaved in the South during the early 19th Century, the flight to freedom was long and dangerous. Runaway slaves could expect harsh treatment if caught, and a bounty was paid for their return. Escapees relied upon sympathetic strangers to give them food and shelter along their perilous trek. They followed a route that had no maps, directed from one safe haven to another along the Underground Railroad. Escaping slaves not only traveled north, but also southward to places like Mexico, Puerto Rico, Cuba, the Bahamas, and Jamaica.

By necessity, the routes of the Underground Railroad generally avoided cities, where more people meant a greater risk of being caught. The paths to freedom ran through many areas that are now part of the Wayne National Forest. Also within the Forest are the remains of two early African American rural settlements that were involved in the Underground Railroad movement – Pokepatch on the Ironton Ranger District and Paynes Crossing on the Athens Ranger District.

Early Industry

Southeastern Ohio was rich in natural resources, but its lands were difficult to farm due to the steep unglaciated topography and poor soils. The coal, iron, timber, salt, clay, oil, and gas from the region was extracted and transported elsewhere for processing and use. Because very little of this economy-building resource processing occurred here, there was a negative effect on the area's development, wealth, and appearance. For example, large industrial centers comparable to Toledo, Cincinnati, and Cleveland did not emerge, and the area did not seem to benefit from the wealth of its resources. However, southeastern Ohio fueled industrialization and contributed significantly to Ohio's high ranking in industrial output and the development of the nation in the 19th and early 20th centuries.

Coal has been mined for over 200 years in southeastern Ohio, mostly in deep underground mines for over a century. Seven of the top nine coal mining counties in Ohio were in southeastern Ohio. Safety and wage concerns fueled establishment here of one of the earliest labor unions that grew to 700,000 members nationwide by 1881. In 1884, reduced wages imposed by the coal operators in New Straitsville resulted in a violent strike. Striking miners set coal cars on fire and sent them into the New Straitsville mine. This caused an enormous underground fire that still burns today because the coal seam provides a perpetual fuel source.

The Muskingum and Hocking River Valleys held rich clay deposits that supported the development of major pottery and tile industries in Perry and Hocking counties. By 1840, the Zanesville area was home to 25 potteries, the largest producer of brick in the nation, and the largest producer of clay tile in the world. The clay company town of Haydenville was built from brick and tile made on site at the factory, and its one-of-a-

kind architecture still survives today. Its primary clay source is situated in the Dorr Run area of the WNF.

Ohio's Hanging Rock Iron Region is 100 miles long and 28 miles wide. The region boomed between 1818 and 1916 and produced some of the best iron in the country, supplying most of the armament for the Civil War. The area was famous for iron plantations, thousands of acres owned by the iron companies where iron ore, limestone, and timber for charcoal were found in close proximity. Each year, a furnace could produce up to 3,000 tons of iron, consuming 350 acres of timber for conversion into charcoal, 7,888 tons of iron ore, and 411 tons of limestone. The remains of hundreds of charcoal kilns and ore and limestone quarries can be found on the Ironton Ranger District. A total of 69 furnaces were built, but only a dozen still stand today. Three of these are now managed by the Forest – Vesuvius (listed on the National Register of Historic Places in 1990), Cambria, and Aetna.

By the 1930s Southeastern Ohio's Industrial Age was waning, and its economy was declining. Population growth slowed and even declined in some places, and industrial technology began to change. Coal mining became mechanized. Iron production fell with the exhaustion of the forests for fuel and the development of competing iron fields in Minnesota. Many of the clay extraction industries were replaced by smaller facilities. The degraded state of many of Ohio's natural resources and associated pollution resulting from the industrial age generated increasing calls for conservation and restoration.

Population

Ohio ranks 7th nationally among the states in population, with more than 11 million residents in 2000. The State's population at present is spread widely among metropolitan and non-metropolitan areas, with approximately 64 percent living in urban areas, 17 percent in suburban areas, and 19 percent in "exurban" and rural areas statewide (Irwin and Reece, 2002). Ohio has six cities with populations larger than 150,000. Population density is highest in the northeastern, central, and southwestern portions of the State, anchored by the major metropolitan areas of Cleveland, Columbus, and Cincinnati, respectively. Although population density is lowest in southeastern Ohio, population growth statewide, and population shifts within the State to the Forest-wide region, combined with an aging population that is becoming more racially/ethnically diverse, will present important challenges and opportunities for the Wayne National Forest.

Historically, both Ohio and the Forest-wide region (the 12 counties in which the WNF lies) have increased in population through the decades, but Ohio's population has grown at a much faster rate than that of the region (see Table 3 - 74). As a result, the portion of Ohio's total

population living in the Forest-wide region has declined over the past century, from nearly 6 percent in 1930 to just under 4 percent in 2000. During these 70-years, Ohio's total population grew by 71 percent percent while the Forest-wide region's population grew by just 22 percent percent.

However, in recent decades, the region's population has been growing faster than the State's. Between 1970 and 2000, the Forest-wide region's population has grown by 14.2 percent while the State's overall population has increased by just 6.6 percent (see Table 3 - 74). This trend illustrates the national "non-metropolitan turnaround" of the 1970s and the "rural rebound" phenomenon of the 1990s, in which certain rural areas gained population faster than did most metropolitan areas. The recent increasing rates of migration from urban to rural areas have been linked to growing numbers of retirees and to the presence of recreational and esthetic amenities in particular rural places (Johnson and Beale, 1998).

The region's population is expected to be 488,180 in 2020, which is 8.5 percent higher than the region's 2000 population. The State's 2020 population is expected to be over 12 million, 9.2 percent higher than the State's 2000 population. Such population growth would likely lead to increased demands on forest and land resources.

Population in Wayne National Forest counties has increased at a rate that is only 1/3 of the average for Ohio as a whole.

Table 3 - 74. Total population trend 1930-2020 for WNF counties.

Location	1930	1940	1950	1960	1970	1980	1990	2000	Net change (1930-2000)	% Change (1930-2000)	2010	2020
Athens	44,175	46,166	45,839	46,998	54,889	56,399	59,549	62,223	18,048	41%	66,810	71,950
Gallia	23,050	24,930	24,910	26,120	25,239	30,098	30,954	31,069	8,019	35%	31,230	31,670
Hocking	20,407	21,504	19,520	20,168	20,322	24,304	25,533	28,241	7,834	38%	31,440	34,920
Jackson	25,040	27,004	27,767	29,372	27,174	30,592	30,230	32,641	7,601	30%	35,030	37,680
Lawrence	44,541	46,705	49,115	55,438	56,868	63,849	61,834	62,319	17,778	40%	62,700	63,700
Monroe	18,426	18,641	15,362	15,268	15,739	17,382	15,497	15,180	(3,246)	-18%	14,920	14,800
Morgan	13,583	14,227	12,836	12,747	12,375	14,241	14,191	14,897	1,314	10%	15,590	16,420
Noble	14,961	14,587	11,750	10,982	10,428	11,310	11,336	14,058	(903)	-6%	15,390	16,800
Perry	31,445	31,087	28,999	27,864	27,434	31,032	31,557	34,078	2,633	8%	36,730	39,720
Scioto	81,221	86,565	82,910	84,216	76,951	84,545	80,327	79,195	(2,026)	-2%	79,980	81,340
Vinton	10,287	11,573	10,759	10,274	9,420	11,584	11,098	12,806	2,519	24%	14,100	15,510
Washington	42,437	43,537	44,407	51,689	57,160	64,266	62,254	63,251	20,814	49%	63,170	63,670
Forest-wide region	369,573	386,526	374,174	391,136	393,999	439,602	434,360	449,958	80,385	22%	467,090	488,180
State	6,646,697	6,907,612	7,946,627	9,706,397	10,652,017	10,797,603	10,847,115	11,353,140	4,706,443	71%	11,828,270	12,402,140
Region population as % of State pop.	5.56%	5.6%	4.71%	4.03%	3.70%	4.07%	4.00%	3.96%			3.95%	3.94%

Sources: Woods and Poole Economics, (2002); U.S. Census Bureau (http://www.census.gov/index.html - website accessed on 9/3/2003)

In the year 2000, Scioto County with 79,195 residents had the largest population of the 12 counties in the Forest-wide region (see Table 3 - 74). Washington County had the region's highest percent change in population through the years 1930 to 2000, growing 49 percent. On the other hand, Vinton County had the region's smallest 2000 population, 12,806. Monroe County's population showed the largest decline in the region from 1930 to 2000, decreasing by 18 percent.

In the more recent years, from 1970 to 2000, Hocking County has grown the fastest in the region with its population increasing by 39 percent. At the other end of the scale, Monroe County's population declined by 3.6 percent during this same period.

According to population projections, the fastest-growing county in the region over the next two decades is again expected to be Hocking, with a projected growth rate of 23.7 percent from 2000 to 2020. In total, the population in the Forest-wide region is expected to increase by 8.5 percent during that time, with 11 counties gaining and one county losing population (see Table 3 - 74).

Ethnicity

The ethnic/racial background of the U.S. population is becoming increasingly diverse. In fact, it has been estimated by the U.S. Census Bureau that by the year 2050, whites will no longer comprise a majority of the U.S. population (U. S. Census Bureau, 2000). In Ohio, just under 15 percent of the population was identified as ethnic/racial minorities in 2000, but the percentage is expected to increase. Minority populations tend to have different use patterns for public lands, and management priorities, than do whites (Carr and Williams, 1993; Johnson, 1998; Taylor, 1989). Thus, understanding ethnic/racial characteristics of the population will likely be a critical component of effective public lands management.

In the year 2000, the majority of the population was identified as white (non-Hispanic) in Ohio and in the Forest-wide region (see Table 3 - 75). The population of the region had lower ethnic/racial diversity than did the State as a whole, with nearly 97 percent whites in the region, compared to 85 percent whites in the entire State. The greatest proportion of individuals with minority ethnic/racial background were identified as African-American (11.5 percent statewide, 1.9 percent in the region), followed by Hispanic (1.9 percent statewide, 0.5 percent in the region), and Asian-American (1.2 percent statewide, 0.2 percent in the region).

In the future, ethnic/racial diversity is expected to increase both statewide and in the region. Between 2000 and 2020, the portion of the population comprised of African-Americans is projected to increase from 11.5 percent to 12.8 percent of the State's population, and from 1.9 percent to 2.1 percent of the region's population. During the same period, the portion

of the population comprised of Hispanics is projected to increase from 1.9 percent to 3.4 percent of the State's population, and from 0.5 percent to 1.1 percent of the region's population. In addition, the portion of the population comprised of Asian-Americans is projected to increase from 1.2 percent to 2.1 percent of the State's population, and from 0.2 percent to 0.9 percent of the region's population.

Within the region in 2000, Noble County had the highest percentage of minority population (7.45 percent) among the 12 Forest-wide counties. In contrast, Monroe County was least ethnic/racially diverse (0.86 percent non-white). The population projections from the year 2000 to the year 2020 predict that Noble County will have the highest percentage of minority population (10.71 percent), while Perry County will have the lowest percentage of minority population (1.38 percent). Noble County is expected to see the largest shift in minority percentage, from 7.45 percent in 2000 to 10.71 percent in 2020.

Table 3 - 75. Percentage of White and Minority Populations.

Location	2000				2010				2020			
	White Population	% White	Minority Population	% Minority	White Population	% White	Minority Population	%Minority	White Population	% White	Minority Population	%Minority
Athens	58,750	94.42%	3,460	5.56%	62,200	93.10%	4,610	6.9%	66,300	92.15%	5,660	7.87%
Gallia	29,790	95.91%	1,260	4.06%	29,830	95.52%	1,390	4.45%	30,150	95.20%	1,520	4.80%
Hocking	27,780	98.27%	480	1.70%	30,910	98.31%	520	1.65%	34,290	98.20%	620	1.78%
Jackson	32,090	98.35%	540	1.65%	34,380	98.14%	650	1.86%	36,940	98.04%	750	1.99%
Lawrence	60,420	97.00%	1,880	3.02%	60,580	96.62%	2,120	3.38%	61,240	96.14%	2,450	3.85%
Monroe	15,040	99.19%	130	0.86%	14,750	98.86%	170	1.14%	14,590	98.58%	210	1.42%
Morgan	14,260	95.77%	620	4.16%	14,820	95.06%	770	4.94%	15,500	94.40%	900	5.48%
Noble	13,040	92.55%	1,050	7.45%	14,040	91.23%	1,360	8.84%	15,000	89.29%	1,800	10.71%
Perry	33,740	98.97%	340	1.0%	36,290	98.80%	440	1.20%	39,170	98.62%	550	1.38%
Scioto	75,860	95.83%	3,300	4.17%	76,170	95.24%	3,340	4.18%	77,020	94.69%	4320	5.31%
Vinton	12,630	98.67%	170	1.33%	13,880	98.44%	220	1.56%	15,260	98.39%	240	1.55%
Washington	61,870	97.86%	1,350	2.14%	61,550	97.44%	1,620	2.56%	61,760	97.00%	1,910	3.00%
Forest-wide total	435,270	96.76%	14,580	3.24%	449,400	96.31%	17,210	3.69%	467,220	95.71%	20,930	4.29%
State	9,672,860	85.15%	1,687,090	14.85%	9,844,830	83.23%	1,983,440	16.77%	10,101,590	81.45%	2,300,540	18.55%

Source: Woods and Poole Economics, (2002).

Economy

The current economic health and vitality of the rural counties in the WNF planning area continues to lag behind both national and State indicators. These counties make up one of the most impoverished areas in Ohio. They remain a part of the Appalachian Regional Commission, a national program created in 1965 that targeted counties in the Appalachian chain for economic development to reverse the damaging trends of chronically higher unemployment, net outward migration, and acute lower levels of income. Thus the Forest-wide area is a target in Ohio for community and economic development by both State and Federal governments.

Important components in assessing the region's economy include number of jobs, unemployment levels, and diversification. The 12 counties in the Forest-wide region comprise only a small portion of the State's total jobs, and the region generally sees unemployment rates higher than the State's. At a broad scale, the region is more economically diverse than the State, with the trade/services sector comprising the lion's share of jobs. The natural resources sector comprises a relatively small portion however.

Income

Incomes have increased steadily over the years, but people living in WNF planning area counties usually have had substantially lower income levels than the State average. In 1970, the mean household income for the region was $32,276, while the statewide mean was $46,163 (See

Table 3 - 76).

Today, the discrepancy between region and statewide income levels has not changed. In 2000, the average household income for the 12-county region was $45,247, while the average household income for the entire State was $65,526 (See

Table 3 - 76). Similarly, in 2000 income per capita averaged $17,860 for counties in the Forest-wide region but $26,250 statewide.

In the region, Washington County had the highest per capita and mean household income ($21,495 and $52,801 respectively) in the year 2000. In fact since 1970, Washington County has consistently maintained the highest income levels in the region. On the other hand, the county with the lowest income levels in the region has changed over time. In 1970, Vinton County had the lowest mean household and per capita income ($26,039 and $8,202 respectively). However in 2000, Noble County had the lowest average household income of $37,989 and per capita income of $14,058.

In the future, both State and regional income levels are expected to rise. However, projections out to 2020 show the 12 counties in the Forest-wide region with substantially lower income levels than the State average. By 2020, Gallia County is expected to have the highest mean household ($68,419) and per capita ($27,564) income levels. Noble County is predicted to continue to have the lowest income levels in the region (mean household income: $45,766 and income per capita: $17,294).

Average household income in WNF counties is only two-thirds of the State average.

Table 3 - 76. Mean Household Income (1996 $).

Location	1970	1980	1990	2000	2010	2020
Athens	$28,295	$33,779	$37,290	$43,200	$47,780	$52,920
Gallia	$29,968	$40,549	$40,726	$50,782	$58,506	$68,419
Hocking	$33,241	$38,000	$42,661	$49,317	$52,660	$57,222
Jackson	$29,959	$34,813	$39,287	$46,620	$52,965	$59,154
Lawrence	$31,699	$39,600	$40,185	$43,949	$47,872	$53,333
Monroe	$36,197	$45,243	$41,047	$44,972	$48,973	$54,941
Morgan	$35,987	$42,032	$45,125	$42,430	$45,722	$50,287
Noble	$29,710	$38,773	$38,074	$37,989	$41,503	$45,766
Perry	$32,179	$39,252	$40,434	$43,681	$48,207	$53,946
Scioto	$35,390	$37,610	$38,902	$46,296	$52,309	$60,426
Vinton	$26,039	$34,711	$37,643	$40,930	$44,124	$48,162
Washington	$38,643	$44,314	$45,706	$52,801	$58,287	$65,787
Forest-wide average	$32,276	$39,056	$40,590	$45,247	$49,909	$55,864
State	$46,163	$50,553	$57,028	$65,526	$73,283	$82,648

Source: Woods and Poole Economics, (2002).

Employment

Over the past three decades, the numbers of jobs available statewide and in the Forest-wide region have increased substantially. As shown in Table 3 - 77, the total number of full-time and part-time jobs increased statewide

by 47 percent and by 38 percent in the region. The region's share of all jobs statewide declined slightly from 2.9 percent in 1970 to 2.7 percent in 2000.

Table 3 - 77. Full-time and Part-time Employment Trend 1970-2000 for WNF Counties.

Location	1970	1980	1990	2000	Net Change (1970-2000)	% Change (1970-2000)
Athens	18,875	21,012	24,527	27,887	9,012	48%
Gallia	9,083	12,801	13,674	16,784	7,701	85%
Hocking	6,983	8,091	8,703	9,747	2,764	40%
Jackson	9,162	10,080	11,492	14,844	5,682	62%
Lawrence	14,005	15,340	15,836	18,540	4,535	32%
Monroe	7,802	10,005	7,334	7,424	(378)	-5%
Morgan	4,744	5,452	6,263	5,928	1,184	25%
Noble	3,110	3,620	3,959	5,102	1,992	64%
Perry	7,311	8,074	9,848	10,267	2,956	40%
Scioto	26,852	27,084	27,719	32,796	5,944	22%
Vinton	2,461	3,540	3,643	3,408	947	39%
Washington	23,763	27,011	29,869	33,003	9,240	39%
Forest-wide	134,151	152,110	162,867	185,730	51,579	38%
State	4,682,839	5,215,316	5,910,736	6,877,576	2,194,737	47%

Source: U.S. Department of Commerce, (2002).

Within the Forest-wide region, Scioto County had the highest number of jobs from 1970 to 1980 (See Table 3 - 77). But by 1990, Washington County had become the leader in this statistic. It continued to have the highest number of jobs (33,003) in 2000. This trend gave Washington County the highest net change from the year 1970 to 2000, with an increase of 9,240 jobs (a 39 percent increase). The only county in the region with a decline in the number of jobs, from 1970 to 2000, was Monroe County (378 fewer jobs, or a loss of 5 percent). In terms of largest percent change in number of jobs, Gallia County had the highest growth, increasing full and part-time jobs by 85 percent (7,701 jobs) from 1970 to 2000. In contrast, Vinton County has had the least number of full and part-time jobs in the region throughout the past three decades. In 2000, Vinton County had 3,408 jobs.

Unemployment Rates

While the number of jobs in a county indicates the size of the local economy, unemployment figures provide additional information about the job opportunities available to the local workforce. As of July 2002, unemployment rates in 10 of the 12 Forest-wide counties exceeded the statewide average (Table 3 - 78). County unemployment rates in the region ranged from a low of 4.9 percent in Athens to a high of 13.3 percent in Morgan.

Table 3 - 78. Unemployment rates in the Forest-wide region and State. (July 2002).

County	Unemployment Rate
Athens	4.9%
Gallia	6.8%
Hocking	7.2%
Jackson	8.4%
Lawrence	6.8%
Monroe	6.6%
Morgan	13.3%
Noble	6.8%
Perry	11.5%
Scioto	7.8%
Vinton	12.4%
Washington	5.3%
State average	5.8%

Source: Ohio Department of Development, Office of Strategic Research, Ohio County Profiles, http://www.odod.state.oh.us/research/Files/s0.html.

Ten of the 12 WNF counties have unemployment rates higher then the State average.

Economic Diversification

Economic sector diversity indicates how employment is distributed across different sectors of the economy. An area with high sector diversity features employment in many different sectors. Greater diversity can make a community more resilient in the face of change, since decline within one sector may be offset by employment in other sectors. Economic analysts have divided the economy into four general economic sectors, each comprised of a number of related industries. These sectors are as follows:

- Government
- Farming, agricultural services, and mining
- Construction, manufacturing, and transportation
- Wholesale and retail trade, finance/insurance/real estate, and services.

Table 3 - 79. Jobs and Earnings (1996 $) by Economic Sector (2000)

Location	Farming,Agricultural Services, and Mining		Construction, Manufacturing, and Transportation		Government		Wholesale and Retail Trade, Finance/Insurance/Real Estate, and Services	
	Jobs	Wages (millions)	Jobs	Wages (millions)	Jobs	Wages (millions)	Jobs	Wages (millions)
Athens	940	$3.87	2,980	$69.58	10,360	$360.86	13,460	$227.63
Gallia	1,170	$2.84	3,540	$129.42	2,120	$71.80	9,540	$185.13
Hocking	670	$5.51	3,330	$100.48	1,740	$57.68	4,550	$64.53
Jackson	1,220	$31.90	5,600	$162.76	1,570	$50.14	6,870	$108.13
Lawrence	790	$3.43	4,070	$129.04	3,980	$115.49	10,380	$144.58
Monroe	1,390	$20.38	3,000	$117.32	1,000	$27.07	2,090	$24.32
Morgan	1,030	$21.68	1,750	$65.76	780	$21.92	2,110	$26.18
Noble	820	$7.20	1,090	$36.73	1,150	$31.65	2,250	$29.98
Perry	1,350	$13.87	3,120	$94.08	1,840	$48.22	4,710	$71.38
Scioto	1,120	$5.99	6,290	$211.96	5,860	$199.41	19,940	$361.44
Vinton	300	$3.58	1,050	$29.10	860	$21.91	1,360	$20.01
Washington	2,420	$17.80	9,620	$358.44	3,580	$115.05	18,130	$346.10
Forest-wide	13,220	$138.05	45,440	$1,504.67	34,840	$1,121.20	95,390	$1,609.41
Sector as a % of all sectors Forest-wide	7%	3%	24%	34%	18%	26%	51%	37%
State	183,730	$2,762	1,798,410	$76,671.01	808,310	$30,781.12	4,090,450	$102,308.08
Sector as a % of all sectors statewide	3%	1%	26%	36%	12%	15%	59%	48%

Source: Woods and Poole Economics, (2002).

In 2000, the wholesale trade, retail trade, and services sector represented the largest share of the economy in the Forest-wide region, generating $1,609,410,000 in wages and accounting for 95,390 jobs (Table 3 - 79). This sector comprised 37 percent of wages and 51 percent of jobs across all sectors in the region. Construction, manufacturing, and transportation sector, the second largest sector, generated $1,504,670,000 in wages and accounted for 45,440 jobs. This sector comprised 34 percent of wages and 24 percent of all jobs in the region.

Compared to the entire State, the region is more dependent on the farming, agricultural services, mining sector as well as the government sector. In the region, the farming, agriculture services, and mining sector comprises 7 percent of jobs and 3 percent of wages, compared to just 3 percent of jobs and 1 percent of wages statewide. Additionally, the government sector generates 18 percent of jobs and 26 percent of wages in the region, compared to just 12 percent of jobs and 15 percent of wages statewide. In contrast, the region is less dependent on the wholesale trade, retail trade, and services sector, with 51 percent of jobs and 37 percent of wages in the region, compared to 59 percent of jobs and 48 percent of wages statewide.

The variability among counties in the WNF region is apparent when jobs and wages across all economic sectors are totaled for each county (Table 3 - 80). In 2000, Washington County had the greatest number of jobs (33,740) and generated the most wages ($837,380,000). Scioto County was not far behind with 33,220 jobs and $778,810,000 in wages. Conversely, Vinton County had the fewest number of jobs (3,570) and generated the least in wages ($74,600,000) in 2000.

Economic diversity indices were also calculated for both the State and the counties in the WNF region using the Shannon-Weaver index. The Shannon-Weaver index is based upon the spread of jobs throughout each economic sector and ranges from 0 (no economic diversity) to 1.0 (perfect economic diversity, with an equal number of jobs in each sector). These calculations indicate that, while both the State and the Forest-wide region have somewhat diverse economies, the region's economy (0.86) was more diversified than the State's (0.62) in 2000 (See Table 3 - 80).

Within the Forest-wide region, there was substantial variability among the 12 counties in 2000. At 0.74, Washington County had the lowest economic diversity in the region, whereas Morgan County had the highest economic diversity (0.95). Regardless of the variability, all 12 counties displayed high economic diversity when compared to the State.

These calculations reflect greater diversity in the Forest region, compared to the State, when jobs are aggregated into the four broad sectors listed above. If job diversity were to be calculated across more narrow industry groupings, with more than four categories, the results might differ substantially. Here, the four broad categories were used because they provide a useful, high-level indicator of diversity at the broadest scale.

Table 3 - 80. Total Jobs and Earnings Across all Four Economic Sectors (2000) and Economic Diversity Index

County	Jobs	Wages (1996 $ in millions)	Shannon-Weaver Diversity Index[a]
Athens	27,760	$661.94	0.77
Gallia	16,340	$389.19	0.79
Hocking	10,300	$228.19	0.87
Jackson	15,270	$352.94	0.84
Lawrence	19,220	$392.54	0.81
Monroe	7,470	$189.10	0.94
Morgan	5,670	$135.55	0.95
Noble	5,300	$105.57	0.94
Perry	11,040	$227.54	0.92
Scioto	33,220	$778.81	0.75
Vinton	3,570	$74.60	0.92
Washington	33,740	$837.38	0.74
Forest-wide total	188,900	$4,373.35	0.86
State	6,880,900	$212,522.13	0.62

The economic sector in the WNF counties is more diverse than the State's as a whole.

Sources: Woods and Poole Economics, (2002); Shannon and Weaver, (1949); Zar, (1996). [a] Calculated with Shannon-Weaver's index of diversity: $J' = H'/H'_{max}$ where $H' = \Sigma\, p_i \log p_i$ and $H'_{max} = \log kp_i$ = the proportion of total employment of the region that is located in the *i*th economic sector and k = number of economic sectors. All indices range between 0 (no diversity) and 1.0 (perfect diversity).

In the future, job trends are expected to favor employment primarily in the wholesale trade, retail trade, and services sector. In the Forest-wide region, this sector is projected to account for 108,580 jobs and generate $2,017,910,000 in wages (see Table 3 - 81). This sector is expected to consist of 52 percent of jobs and 39 percent of all wages in the region. The second-largest sector is expected to be construction, manufacturing and transportation, which is projected to generate 46,590 jobs and $1,669,850,000 in wages. This sector is expected to comprise 22 percent of jobs and 32 percent of all wages in the region by 2010.

Compared to the entire State, the region will likely continue to depend more on the farming, agricultural services, and mining sector and government sector in the future. In the region, the farming, agricultural services, and mining sector is expected to comprise 7 percent of jobs and 3 percent of wages, compared to just 3 percent of jobs and 1 percent of wages statewide in 2010. The government sector is expected to produce 38,780 jobs and yield $1,330,450,000 in wages. In 2010, the government sector is expected to account for 19 percent of jobs and 26 percent of wages, compared to 11 percent of jobs and 14 percent of wages statewide. In contrast, the region is projected to be less dependent than the State on the wholesale, trade, retail trade, FIRE, and services sector. In 2010, this sector is expected to account for 52 percent of jobs and 39 percent of wages, compared to 61 percent of jobs and 50 percent of wages statewide.

Table 3 - 81. Projected Jobs and Earnings (1996 $) by Economic Sector (2010)

	Farming, Agricultural Services, and Mining		Construction, Manufacturing, and Transportation		Government		Wholesale and Retail Trade, Finance/Insurance/Real Estate, and Services	
Location	Jobs	Wages (millions)	Jobs	Wages (millions)	Jobs	Wages (millions)	Jobs	Wages (millions)
Athens County	1,010	$5.10	3,030	$74.99	11,680	$433.14	15,740	$294.98
Gallia County	1,140	$3.17	3,710	$146.72	2,210	$80.45	11,070	$242.50
Hocking County	720	$6.72	3,570	$116.40	1,930	$67.98	5,410	$84.13
Jackson County	1,340	$40.00	6,500	$209.39	1,860	$62.98	7,920	$137.05
Lawrence County	790	$3.87	4,070	$136.66	4,660	$144.53	11,820	$179.38
Monroe County	1,460	$25.09	2,870	$121.39	1,060	$30.25	2,290	$28.89
Morgan County	1,110	$26.20	1,710	$70.19	840	$25.23	2,440	$32.43
Noble County	850	$8.54	1,090	$40.31	1,340	$39.48	2,760	$39.97
Perry County	1,420	$16.74	3,420	$110.91	2,000	$55.92	5,600	$93.56
Scioto County	1,140	$7.25	6,260	$229.17	6,510	$235.69	22,590	$450.28
Vinton County	330	$4.32	1,080	$32.99	970	$26.22	1,660	$26.78
Washington County	2,480	$20.84	9,280	$380.73	3,720	$128.58	19,280	$407.96
Forest-wide	13,790	$167.84	46,590	$1,669.85	38,780	$1,330.45	108,580	$2,017.91
Sector as a % of all sectors Forest-wide	7%	3%	22%	32%	19%	26%	52%	39%
State	191,750	$3,286.38	1,923,210	$89,490.75	874,760	$35,365.21	4,625,070	$128,543.77
Sector as a % of all sectors statewide	3%	1%	25%	35%	11%	14%	61%	50%

Source: Woods and Poole Economics, (2002).

County Planning and Zoning

Six of the 12 counties that have land within the Forest's proclamation boundary have land use plans (Table 3 - 82). At present, county planning and zoning provide relatively limited information that the Forest could use to avoid acquiring land the counties see as important to future development.

Table 3 - 82. Status of county planning and zoning.

County	Land Use Plan Completed	Comments
Athens	Yes	
Gallia	Yes	Commissioners' office states Gallia does have a farm land use plan, and an outdated comprehensive plan that is not in use.
Hocking	Yes	Commissioners' office states their plan was completed in 1968, and is currently being updated.
Jackson	Yes	
Lawrence	No	Commissioners' office states zoning does not extend beyond the city of Ironton, except for floodplain building restrictions.
Monroe	No	
Morgan	No	Commissioners' office states a county land use plan is currently being developed. Malta Township does have a land use plan, but Malta lies outside the Forest's proclamation boundary.
Noble	Yes	Commissioners' office states Buffalo and Wayne Townships are zoned, but both are outside the Forest's proclamation boundary. Noble County's Sustainable Communities Plan does provide pertinent information for Forest management.
Perry	No	Commissioners' office states Hopewell, Reading and Thorn Townships are zoned, but they all lie outside the Forest's proclamation boundary.
Scioto	No	Commissioners' office states Porter, Valley and Clay Townships are zoned, but they all lie outside the Forest's proclamation boundary.
Vinton	No	
Washington	Yes	

Environmental Consequences

Effects Common to All Alternatives

Effects of National Forest Ownership

The Forest's land acquisition program has been the subject of some opposition, based on concerns that National Forest ownership may discourage residential and industrial development and adversely impact local tax revenues for schools and county governments. Federal land cannot be developed for residential or industrial purposes. Also, State and local governments cannot tax Federal land, so government jurisdictions that include Federal lands face a reduced land base on which to levy property taxes.

These concerns resulted in a moratorium (included in the 1995 appropriations bill for Interior and Related Agencies) on the purchase of land by the Wayne National Forest within Lawrence, Washington, Monroe, and Gallia Counties in Ohio. The language was subsequently removed in the Fiscal Year 2000 appropriations bill. The Ohio State Legislature also considered action on this issue. In 1999, a bill was introduced to amend the State of Ohio's consent law. It passed the Ohio House of Representatives in November 2000 but did not come to a vote in the Senate.

To assess the impacts of National Forest ownership on local tax revenues, it is necessary to understand not only the tax-exempt nature of Federal lands but also the Federal payments to local governments that arise from Federal land located in their jurisdictions. These Federal payments should be compared to property tax revenues that would be expected if the land were privately owned and evaluated within the context of other sources of local government funding.

Federal Funding Programs

Although National Forests do not pay property taxes for the land managed by the Federal government, the Federal government helps fund State and local governments through three major programs: the 25 Percent Fund, Payment in Lieu of Taxes (PILT), and a share of mineral royalties.

The 25 Percent Fund provides a means to share 25 percent of the gross revenue from fees collected on National Forest System (NFS) lands for activities such as timber, grazing, camping, and special use permit fees. The funds are paid to the States annually and then given to counties where the funds originated, based on National Forest acreage within those counties. The funds must be used for schools and roads. Counties may choose one of two formulae for calculating their payments: the traditional formula based on current year revenue and the newer "Full Payment"

option based on the average of the highest three years of revenue during fiscal years 1986 through 1999.

The Federal Payments in Lieu of Taxes (PILT) Act of 1976 established funds to compensate county governments for private property taxes forgone due to Federal ownership (Chapter 69, 31 U.S.C. 6901-6907; Payments in Lieu of Taxes Act). Like the 25 Percent Fund, PILT payments are made to the counties based on acres of National Forest land within the county, but only for NFS land that was privately owned prior to Federal acquisition, called entitlement acres. If the lands were already in public ownership, such as those previously owned by State government, these lands were already tax exempt, and are not considered "entitled" to PILT dollars. This statutory requirement explains why some counties do not receive money for every acre of National Forest land. In addition to entitlement acres, PILT payment amounts depend on several additional factors: population of a county, amount of payments from other Federal agencies during the previous year, existence of State "pass-through" laws which require other Federal payments to be channeled to local entities rather than county governments, and the Consumer Price Index.

A third major Federal program that provides funds to States and counties involves mineral royalties generated on Federal lands. For lands acquired by the Forest Service under the Weeks Act, which includes WNF lands, the Federal government shares 25 percent of gross mining receipts with the State. Mineral royalties historically have been added to the 25 Percent Fund, earmarked for schools and roads, but after 1992 an administrative change shifted these payments to a separate fund for counties, not earmarked for schools and roads.

Payment in Lieu of Taxes

Data are available to assess trends in Federal payments to local governments in the Forest-wide Region from the 25 Percent Fund (including mineral royalties until 1992) and PILT (see Table 3 - 83). The 25 Percent Fund payments declined from a high in 1985 of $192,525 to a low of $11,400 in 1996. This decrease coincided with a trend of timber production decline across all National Forests starting in the 1980s, as well as litigation against the WNF that halted most timber sales. In addition, after 1992 mineral royalties were managed via a separate reporting and delivery system instead of being added to the 25 Percent Fund. Together these changes precipitated a decrease of approximately 94 percent, between 1985 and 1996, in the total real dollars available for disbursement from the Federal government for roads and schools within the 12 counties.

Table 3 - 83. PILT and 25% Fund Payments to counties in the WNF (Inflation Adjusted).

Year	Actual Acres	PILT	25% Fund	Total	Inflation Adjusted	Adjusted per actual acre
1970	140,250		$11,785	$11,785	$47,658	$0.33
1971	146,789		$11,619	$11,619	$45,012	$0.30
1972	153,917		$22,026	$22,026	$82,685	$0.44
1973	159,401		$19,854	$19,854	$70,164	$0.44
1974	161,956		$9,666	$9,666	$30,766	$0.19
1975	163,345		$32,274	$32,274	$94,110	$0.58
1976	166,085			$33,545	$92,483	$0.57
1977	168,350			$144,612	$374,400	$2.22
1978	170,173			$158,361	$381,086	$2.24
1979	172,766			$147,145	$318,008	$1.84
1980	174,641			$146,516	$278,966	$1.60
1981	176,527			$146,751	$253,292	$1.43
1982	176,787	$72,335	$89,550	$161,975	$263,371	$1.48
1983	177,150	$33,615	$75,386	$109,001	$171,676	$0.96
1984	177,701	$37,201	$155,511	$192,712	$287,975	$1.62
1985	177,977	$56,567	$192,525	$249,092	$363,176	$2.04
1986	177,977	$17,143	$95,448	$112,591	$161,230	$0.91
1987	178,965	$17,689	$176,267	$193,956	$267,853	$1.50
1988	186,395	$38,975	$92,636	$131,611	$174,516	$0.94
1989	186,395	$18,694	$171,536	$190,230	$240,640	$1.29
1990	197,938	$50,311	$134,296	$184,607	$221,528	$1.12
1991	202,751	$19,951	$150,639	$170,590	$196,519	$0.97
1992	211,707	$20,583	$132,986	$153,569	$171,690	$0.81
1993	217,758	$22,023	$37,692	$59,715	$64,850	$0.30
1994	218,809	$30,606	$30,110	$60,716	$64,298	$0.29
1995	221,707	$129,096	$15,554	$144,650	$148,989	$0.67
1996	227,055	$216,199	$11,400	$227,599	$227,599	$1.00
1997	227,128	$141,106	$16,380	$157,486	$154,021	$0.68
1998	228,401	$150,237	$13,663	$163,900	$157,853	$0.69
1999	229,654	$156,524	$22,984	$179,508	$169,096	$0.74

a Inflation figures adjusted are based on 1996 dollars. See www.jsc.nasa.gov/bu2/infateCPI.html

In contrast with 25 Percent Fund payments, PILT payments to counties in the Forest-wide region have increased substantially in recent years. In 1995, Congress passed new PILT legislation that set a schedule for increasing PILT payments. Although Congress has never fully funded the new authorized payment levels, PILT payments to Forest-wide region counties did increase substantially after 1994 (see Table 3 - 83).

Despite increasing PILT payments, the decreased 25 Percent Fund payments depressed total Federal payments to local governments. Combined PILT and 25 Percent Fund payments dropped from $249,092 in 1985 to under $40,000 in 1993 and 1994 before rebounding somewhat to $227,599 in 1996. During this time, the Wayne saw a significant increase in funds available for acquisition of lands. Federal ownership on the Forest increased by more than 43,000 acres between 1989 and 1999, further diluting the available 25 percent Funds available for school districts within the Wayne on a per-acre basis (see Table 3 - 83).

In addition to the payments for PILT, revenue sharing and mineral royalties cited above, counties also receive additional direct payments or project dollars for other services provided to the National Forest. Counties with NFS lands are eligible for funding under the Forest Highway Program administered by the Federal Highway Administration. Counties may enter cooperative law enforcement agreements with the U.S. Forest Service to be reimbursed for expenditure of funds in support of law enforcement activities on NFS lands. Local fire departments may enter cooperative agreements to be reimbursed for forest fire-fighting response. And eligible communities within the National Forest may apply for Rural Development grants administered by the U.S. Forest Service State and Private Forestry.

Table 3 - 84 shows that the average annual combined Federal reimbursements and payments to the 12 counties within the Wayne has been approximately $2.74 per acre.

The Wayne National Forest makes a significant contribution the region's economy.

Table 3 - 84. All Forest-related Federal Payments to the 12 Counties.

Source	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003
PILT	$141,106	$150,237	$156,524	$168,320	$237,758	$267,551	$278,071
Revenue Sharing	$16,380	$13,663	$22,984	-$3,116	$40,419	$61,371	$76,194
Mineral Royalties	$19,209	$14,853	$16,914	$15,858	$23,193	$10,844	$14,822
Coop LE	$35,000	$49,000	$36,500	$32,800	$32,500	$32,500	$32,500
Forest Highways	$586,856	0.00	$250,123	$507,304	$550,000	250,000	200,000
Road Projects	0.00	0.00	0.00	0.00	$49,698	0.00	0.00
Fire Equip Rentals*	$10,000	$10,000	$10,000	$10,000	$10,000	$4,261	$735
Total	**$808,551**	**$237,753**	**$493,045**	**$731,166**	**$943,567**	**$626,527**	**$602,322**
Forest Acres	227,128	228,401	229,654	231,290	232,926	233,638	236,175
Average per acre	$3.56	$1.04	$2.15	$3.16	$4.05	$2.68	$2.55

***** - Reductions in this category are directly related to low incidents of fires.

- Average per acre payment over the seven years shown is $2.74

In response to substantially lower Federal 25 Percent Fund payments after 1992 and increasing Federal land ownership, some citizens in southeastern Ohio became increasingly concerned that Federal ownership of land in the region was having a negative effect on the tax base. The PILT program was targeted in particular, and most objections were based on its effect on the area's schools, even though the only program that directly reimburses schools is the 25 Percent Fund (PILT and mineral royalty payments are made directly to the general fund of each county).

Ownership Impacts on Development

One measure of the impact of the National Forest land base on the potential for future development of land within the 12 counties is to correlate the relative acreage of the Wayne in each county with the acreage enrolled in Ohio's Current Agricultural Use Valuation (CAUV). CAUV lands are, by definition, undeveloped. While the purpose of the CAUV program is to retain open space in Ohio, lands in CAUV are available for development if the current owner (1) chooses to develop the property rather than continue with agricultural pursuits, and (2) repays the prior three years of tax savings resulting from CAUV enrollment. The following is a brief explanation of the CAUV program:

In the early 1970s, agricultural landowners faced rising property taxes as law changes increased the property assessment rate, the economy experienced high inflation, and growing metropolitan areas exerted development pressures. To help reduce the tax burden on agricultural landowners, the Ohio Constitution (Article 2, Section 36) was amended in a 1974 statewide referendum to allow agricultural land value to be based on its current rather than its potential use (referred to as highest and best use value, or HBUV). The resulting legislative program is called current agricultural use valuation, or CAUV. Based on data from the Ohio Department of Natural Resources, LBO (Legislative Budget Office) estimates that 20 percent of CAUV land in Ohio is timberland (3.2 million acres) (Petry, 2000).

In all counties, CAUV lands significantly exceed the amount of NFS lands (see Table 3 - 85). Based only on the amount of open space represented by CAUV, these figures suggest that all 12 counties have sufficient additional lands now enrolled in CAUV that could be developed if market conditions warranted.

Table 3 - 85. CAUV enrolled acreage in the 12 counties of the WNF, 2003.

County	WNF Acres	WNF % of County	Total acres in County	CAUV Acres	CAUV % of County
Athens	18,365	5.8%	325,327	98,734	30.35%
Gallia	16,954	6%	301,543	139,303	46.2%
Hocking	24,151	9.5%	270,974	58,230	21.5%
Jackson	1,701	0.6%	269,632	71,998	26.7%
Lawrence	68,843	24.2%	292,375	110,652	37.8%
Monroe	24,137	8.4%	292,441	148,587	50.8%
Morgan	3,328	1.2%	269,725	133,994	49.7%
Noble	694	0.3%	258,738	95,316	36.8%
Perry	22,257	8.5%	263,841	106,179	40.2%
Scioto	11,625	3%	394,358	192,413	48.8%
Vinton	1,869	0.7%	265,526	63,776	24.0%
Washington	39,002	9.5%	409,125	174,460	42.6%
Total	232,926	6.6%	3,613,605	1,393,642	38.6%

Source: The Ohio Department of Taxation.

In all 12 counties, the amount of acreage enrolled in CAUV increased between 1990 and 2003 (see Table 3 - 86). The increases ranged from 12.0 percent in Washington County to 46.8 percent in Hocking County, with a Forest-wide average of 23.5 percent. This overall increase in CAUV enrollment suggests two conclusions. First, there does appear to be sufficient demand for undeveloped land in the 12 counties to keep landowners from electing to preserve open space for the tax benefit. Second, many land owners in the region do not anticipate near-term demand for development, as they would have to repay the prior three years of tax savings if CAUV lands were converted to other uses.

Table 3 - 86. CAUV enrollment by year in the 12 counties of the Wayne.

Year	Athens	Gallia	Hocking	Jackson	Lawrence	Monroe	Morgan	Noble	Perry	Scioto	Vinton	Washington	Forest-wide
1990	61,363	118,854	31,002	53,143	93,335	115,395	109,008	68,159	80,667	141,246	39,937	153,549	1,065,658
1991	62,834	120,432	30,557	54,108	95,089	116,377	110,629	72,633	83,182	143,030	39,822	155,165	1,083,858
1992	66,302	121,062	32,796	55,854	98,372	117,604	112,363	74,753	85,485	148,805	39,311	157,709	1,110,416
1993	71,570	119,609	37,584	58,363	101,469	123,291	114,662	80,056	86,652	151,090	42,921	159,253	1,146,520
1994	75,563	123,711	38,880	61,486	103,235	129,047	118,865	81,738	87,458	154,734	44,951	146,631	1,166,299
1995	80,654	123,196	39,955	60,402	104,227	131,491	121,307	83,358	90,609	156,121	48,534	139,843	1,179,697
1996	85,919	125,054	40,646	62,526	105,948	135,330	120,847	83,993	94,328	162,415	48,819	155,977	1,221,802
1997	87,047	128,189	41,252	65,867	107,403	138,764	126,599	87,994	95,581	165,019	50,232	157,784	1,251,731
1998	89,134	130,430	50,778	66,637	107,605	141,587	127,988	89,438	96,976	169,300	52,774	158,732	1,281,379
1999	90,163	131,679	52,768	68,065	109,047	142,417	129,421	91,494	98,384	180,474	55,355	163,006	1,312,273
2000	93,018	135,367	53,817	68,768	109,839	144,775	131,827	93,281	104,138	178,480	59,061	168,999	1,341,370
2001	92,143	136,953	54,728	69,616	110,006	146,607	133,567	93,980	102,124	183,580	62,776	169,293	1,353,373
2002	97,776	136,003	55,798	71,093	110,916	147,107	134,499	93,948	107,135	188,070	62,100	172,203	1,376,648
2003	98,734	139,303	58,230	71,998	110,652	148,587	133,994	95,316	106,179	192,413	63,776	174,460	1,393,642
Net Change	37,011	20,4492	27,228	18,855	17,317	33,192	24,986	27,157	25,512	51,167	23,839	20,911	327,984
Percent Change	37.5%	14.7%	46.8%	26.2%	15.7%	22.3%	18.6%	28.5%	24.0%	26.6%	37.4%	12.0%	23.5%

Source: Ohio Department of Taxation.

Not all open, undeveloped acreage in each county is enrolled in CAUV. Some undeveloped properties are enrolled in other abatement programs, such as Forest Tax law. Other lands available for development may not be enrolled in a tax abatement program. Still other lands may have a current use that is less than the optimal use and so are available to be developed to a higher degree.

Given the current levels of undeveloped, privately owned land in Southeast Ohio, there is minimal potential for conflict between conservation by the Forest Service and development by residential, commercial, and industrial interests. Even if the Wayne grows to the 322,000 acres envisioned by the 1988 Forest Plan, the additional acres would represent only a six percent reduction in the almost 1.4 million acres currently enrolled in CAUV. At 322,000 acres, the Wayne would still hold less than 10 percent of the total 3.6 million acres in the 12-county region.

Additionally, Forest priorities for land acquisition tend to be properties with limited potential for future commercial or industrial development. The Forest's priority for ownership consolidation targets existing in-holdings surrounded by NFS land. Generally, in-holdings are remote areas that would be less desirable for commercial or industrial development because of infrastructure and labor limitations:

- Access to highways for transportation of resources or products. No interstate highways pass through the Wayne. Only two restricted access highways lie within the Proclamation Boundary. Few of the State and county roads within the Forest were designed for heavy industrial use.
- Access to utilities, including water and sewage lines for industrial and commercial sites. The rural areas within the Forest boundary rely heavily on wells and septic systems, which are generally insufficient to support the demands of industrial or commercial users.
- An available labor pool. While rural communities often have high unemployment rates, the population is often so scattered that companies find it difficult to recruit a qualified workforce in remote areas.

Potential employers would more likely locate a business or factory near one of the area's larger towns, like Nelsonville, Marietta, or Ironton, rather than in a remote area, away from a population center and ready transportation.

There are occasions when another use is identified for NFS land that best serves the public interest. In those cases, the Forest Service is willing to complete land exchanges. The Wayne has participated in land exchanges that benefit communities struggling with new needs resulting from

development, such as new school construction in the Rock Hill School District of Lawrence County or a new sewage plant in New Straitsville.

Although in-holdings in the Forest may not be suitable for commercial or industrial development, they may be very attractive to private individuals for development as housing for year-round residence as well as weekend retreats. Indeed, "gateway" communities to public forest and park lands nationwide are becoming increasingly popular for residential development. Thus Federal land ownership may actually foster residential development on private land nearby, even as it prevents residential development on Federally owned parcels, because of the positive effects of public land on the quality of life.

Ownership Impacts on Local Tax Bases

Property taxes are a critical source of revenue for many local governments and school districts. Since NFS land is tax-exempt, there is potential for Federal ownership to negatively impact local tax bases. Analyses described below, however, suggest that the preclusion of private residential development on Federal lands actually helps county government finances because service and infrastructure costs in rural places often exceed property tax revenues associated with residences. In addition, Federal payments are frequently higher than property tax collected on CAUV-enrolled lands in the counties. Moreover, many counties in the Forest-wide region do not exceed the State average of tax-exempt land, as other counties have higher levels of non-Federal tax-exempt holdings (churches, State lands, universities, etc.). Also, the impact of declining 25 Percent Fund payments to schools is lessened by the relatively small portion of school funding that comes from this source, compared to other sources. Finally, counties may gain increased sales tax revenues as visitors to the Forest spend money locally. Several opportunities exist for local jurisdictions in the Forest-wide region to increase revenues.

Residential Development Tax Revenues and Service Costs

As noted, residential development is precluded on Federally owned parcels. But this does not necessarily have a negative impact on local government finances. Even though residential development can generate tax revenues, it can incur substantial public costs. Several studies have closely examined the economic impact of residential development in rural areas. As reported in a National Park Service study (NPS, 1995), residential development almost always results in increased public service requirements, for example transportation and utility costs including roads, utilities, sanitary sewage, water, natural gas, and electricity; as well as service costs including libraries, recreation, schools, health care, police and fire protection, and solid waste collection and disposal. In many cases, the cost of providing these services greatly exceeds the tax revenues generated from the development.

In an analysis of the economic impacts of open space, the Duchess County, New York, planning department found that farms and other types of open land can actually subsidize local government by generating more in property taxes than they demand in services. Residential lands required $1.12 to $1.36 for every tax dollar contributed, while agricultural lands required only $0.21 to $0.48 for every dollar (Sayer, 1994 in NPS, 1995).

According to an American Farmland Trust (1986) study of Loudoun County, Va., "over a wide range of development densities . . . the ongoing public costs of new residential development will exceed the (public) revenues from such development." Of those units analyzed, annual revenues per thousand dwellings were between $2.7 million and $2.9 million, while costs averaged between $3.5 and $5.0 million. The annual net deficit per thousand units ranged from $0.6 million to $2.3 million (1986 dollars). The greatest predicted shortfall was for the lowest-density units, termed by the Trust as "rural sprawl." For all densities, school expenses were the largest proportion of total costs (American Farmland Trust, 1986 in NPS, 1995).

In Culpepper County, Va., the average new residential unit can be expected to produce a deficit in the county budget of $1,242 (1988 dollars) (Larson and Vance, 1988). According to the authors, this study addresses the widespread but erroneous perception that residential growth, in expanding the tax base, improves local fiscal health. While residential development produces increased revenues from real estate taxes and other sources, it also increases demand for public service expenditures and generates demand for expanded public facilities (NPS, 1995).

A companion study concluded that for every dollar of tax revenue collected from residential land uses in Culpepper County in 1987, $1.25 was spent on county services. For every dollar collected from industrial/commercial or farm/forest/open space lands, only $0.19 was spent on services (Vance and Larson, 1988 in NPS, 1995).

A similar study conducted by the Davey Resource Group of Kent, Ohio, found that in Shelby County, Ohio, "for every dollar raised from residential land use related revenues, Shelby County spent $1.11 in direct services." The study also demonstrated the manner in which farm, forest, and open space land uses were positive fiscal contributors to the county's bottom line. Specifically, "for every dollar raised to provide public services for farm, forest and open space uses, only $0.29 was spent to provide services for these land uses" (Reiss, no date). A comparison of the relative costs of providing services to different land uses as a percentage of tax revenue from that land use appears in Table 3 - 87.

Table 3 - 87. Cost of Servicing Different Land Uses as a Percentage of Tax Revenue Received.

Study Location	Residential Development	Commercial Development	Farmland, Forest, and Open Space
Culpepper County, VA	125%	19%	19%
Connecticut average	106%	47%	43%
Massachusetts average	112%	42%	33%
New York average	124%	23%	35%
Town of Dunn, WI	106%	29%	18%
Lake Elmo, MN	107%	20%	27%
Independence, MN	103%	19%	47%
Farmington, MN	102%	79%	77%
Madison, OH	167%	20%	38%
Madison Township, OH	114%	25%	30%
Average	116%	32%	37%

Source: *The Economics of Urban Sprawl*. Water Protection Techniques. June, 1997

Forestland is much less costly to administer than residential development.

These studies show that the costs of support services that counties provide to residential developments typically average $1.16 for every dollar in tax revenue raised from that source. Support services for farmland, forests and open space typically cost counties about $0.37 for every dollar in tax revenue. In contrast to residential development, National Forest lands generate payments to counties but do not require public services such as schools, utilities, water and sewage, or solid waste collection and disposal. National Forests directly reimburse counties for some public services through programs such as law enforcement cooperative agreements (

Table 3 - 84).

Fire departments are reimbursed for fighting fires on Forest land with grants administered through the Ohio Department of Natural Resources. Counties are eligible for road maintenance assistance through the Ten Percent Program. After massive flooding in 1997 and 1998, the Forest Service provided more than $2 million to repair roads within the 12 counties. Also, rural and community economic development and promotion of tourism and travel can be assisted by funding available to the Federal Highway Administration (FHWA). These payments are in addition to the major funding sources described in Section 2.3.1: The 25 Percent Fund, PILT, and mineral royalties.

Comparing Federal Payments to Property Taxes Paid by Residents

Property taxes vary widely depending upon the type of land, current usage and improvements. The use of CAUV rates as a comparison to estimate

the potential tax on current National Forest lands is reasonable because much of the WNF was enrolled in CAUV at the time it was acquired by the Forest Service. In addition, nearly all NFS lands would qualify for CAUV if the land were privately owned and remained undeveloped. Across the sample taxing districts shown in Table 3 - 88 below, private lands enrolled in CAUV generated between in $1.48 and $2.82 in 2000. These taxes per acre are generally less than the five-year average (1997-2001) for all Federal payments, which was $2.74 per acre (see

Table 3 - 84).

Table 3 - 88. Sample of tax revenue generated by CAUV lands in southeast Ohio.

County	Township	School District	CAU Value of Land[a]	CAU Value	Millage	Tax Revenue	CAUV Acres	$ Per Acre
Hocking	Ward	N-Y SD	$978,620	$342,530	44.475300	$15,234.00	8,091.94	$1.88
Gallia	Walnut	Symmes Valley	$327,200	$114,500	35.897604	$4,110.28	1,569.56	$2.62
Lawrence	Symmes	Symmes Valley	$791,930	$277,450	34.890104	$9,680.26	5,540.38	$1.74
Lawrence	Lawrence	Rock Hill	$131,610	$46,140	30.562669	$1,410.16	824.76	$1.71
Lawrence	Windsor	Symmes Valley	$2,625,730	$919,880	35.151149	$32,334.84	15,767.00	$2.05
Monroe	Graysville	Switzerland	$53,160	$18,610	32.674180	$608.00	358.00	$1.78
Noble	Elk	Switzerland	$634,380	$222,160	51.000000	$11,330.16	4,014.54	$2.82
Vinton	Knox	Alexander	$16,670	$5,840	41.046792	$239.72	161.00	$1.48

[a] Based on Auditor Reports of Abstract Values of Land Trust According to its CAU Values, 2000.

Impact of All Tax-exempt Properties on Counties within the Forest-wide Region

All counties have some properties that are tax exempt. Besides Federal lands, such properties might include State lands, colleges, universities, churches, parks, and fire departments. One measure of how much impact a National Forest has on a local tax base is to compare the level of tax-exempt properties within the Forest-wide counties against the State average. As shown in Table 3 - 89, six of the 12 counties within the Wayne have tax-exempt valuations below the statewide average. In the other counties, other large holdings may account for a greater percentage of the exempt assessment than the National Forest. For example, Athens County has the second highest tax exempt percentage of total assessed valuation in the State, behind only Pike County. Athens County includes Ohio University, Hocking College, and Ohio Department of Natural Resource lands. In Scioto County, the largest holder of tax-exempt valuation is the State of Ohio, where the county includes a State college and a State forest. Only in Monroe County did the Federal government

hold the largest percentage of tax-exempt property in the year 2000. Yet Monroe County is below the statewide average for tax-exempt property. These figures suggest that the presence of a National Forest has not created an undue burden in the Forest-wide region due to the tax-exempt nature of Federal lands.

Table 3 - 89. Percentage of each County's Assessed Valuation Reported on All Tax-Exempt Real Property (2000)

County	Percent Exempt
Athens	32.40%
Gallia	19.97%
Hocking	13.20%*
Jackson	11.29%*
Lawrence	14.98%
Monroe	10.90%*
Morgan	9.38%*
Noble	21.09%
Perry	11.55%*
Scioto	25.98%
Vinton	12.36%*
Washington	14.18%
Statewide average	**13.92%**

Source: Ohio Department of Taxation, (2000) - Total Valuation of Real Property.

* Below statewide average.

Six of the twelve WNF counties have more than the State average of tax exempt real property.

Impact of National Forest Ownership on School Funding

As described above (Table 3 - 83), 25 Percent Fund revenues declined substantially after 1992. Since 25 Percent Fund payments are earmarked for roads and schools, this raised considerable local concern over school funding for the 17 school districts in the Forest-wide region. However, analysis reveals that the reduction in Federal impacts did not significantly impact school districts, owing to the relatively small share of school funding provided by the 25 Percent Fund. Table 3 - 90 shows the average enrollment for each district and the average 25 Percent Fund payment per pupil, reported in disbursed dollars. The 25 Percent Fund payment averaged $5.89 per pupil in 1985 and just $0.51 per pupil in 1996. In 1985, the school districts' average spending per pupil (all funds) was $3,280. At its peak, 25 Percent Funds represented approximately two-tenths of one percent of the total per-student funding for each school district within the Wayne's vicinity.

Table 3 - 90. Average 25 Percent fund revenue per student based on total enrollment.

School District	1985	1990	1995
Nelsonville-York	$ 1,671	$ 1,577	$ 1,552
Trimble LSD	1,157	1,128	1,082
Gallia County LSD	3,085	3,188	3,085
Logan-Hocking LSD	3,780	3,812	4,052
Oak Hill Union LSD	1,442	1,311	1,366
Dawson-Bryant LSD	1,556	1,311	1,356
Rock Hill LSD	2,218	2,058	2,021
Symmes Valley LSD	1,006	992	1,044
Switzerland of Ohio LSD	4,057	3,575	3,268
Morgan LSD	2,689	2,735	2,751
Southern LSD	1,132	1,026	1,103
Bloom-Vernon LSD	1,211	1,184	1,207
Green LSD	821	835	824
Wheelersburg LSD	1,760	1,729	1,633
Vinton County LSD	2,517	2,444	2,438
Fort Frye LSD	1,329	1,339	1,275
Frontier LSD	1,238	1,122	1,072
Total Enrollment	32,669	31,366	31,129
25% Fund per student	$5.89	$4.28	$0.50
25% Fund per student in constant dollars (1996)	$8.59	$5.14	$0.51

Source: Ohio Department of Education, http://ode000.ode.state.oh.us

Sales Tax Revenues Generated by the Wayne National Forest

The 12 counties containing NFS land receive tax revenue from spending by visitors to the Forest. Counties and local communities benefit from local sales taxes as well as local lodging taxes. To estimate the contributions to local tax bases from Forest visitors, one must accurately assess the level of visitor spending. This is challenging in a highly dispersed destination, such as the WNF, which has more than 230,000 acres divided across 12 counties. According to estimates from prior studies, spending in the region related to Forest visitation differs between non-local and local visitors. Non-local Forest visitors in the aggregate spend about $31,810,000 annually in the region on recreation in the WNF vicinity (Kriesel, 1996). Local Forest visitors spend an estimated $13,877,500 annually (see further discussion in Section 3 of this assessment); according to a 1996 Department of Development study, 66 percent of respondents spent between $11 and $80 during a day trip, for an average expenditure of $45.50. Counties and community tax rates vary. In the estimates of county tax revenue from visitor spending below, the conservative figure of 1.0 percent is used as the combined sales tax rate

because it is the minimum rate across the 12 counties within the Wayne. However, 10 of the 12 counties within the Wayne have higher tax rates, as shown above, so the figures below are low rather than high estimates. No data are available to measure additional revenue for those counties that have passed a lodging tax. Based on these conservative estimates of tax percentage rates, these figures indicate that visitor spending related to the WNF returns at least $1.90 per acre in sales tax revenue directly to the counties (see Table 3 - 91 below). The estimate compares with a MarketVision Research, Inc. summary of the economic impact of tourism in Lawrence County, where the Wayne's Lake Vesuvius Recreation Area and Off-Road Vehicle trails are among the county's most popular attractions. It shows that local tax revenue from tourism is more than $320,000 annually (MarketVision Research Inc., 1997).

Table 3 - 91. County revenue derived from the WNF (based on 1%).

Source	Value	Tax Revenue
Non-local Visitors	$31,000,000	$310,810
Local Visitors	$13,877,500	$138,775
Total		**$449,585**

WNF visitors contribute significant tax revenue to local counties.

Summary of Impacts of Wayne National Forest Land Ownership

The presence of the Wayne, with its ongoing land acquisition program, does not appear to be negatively impacting economic development in the 12 counties. Substantial quantities of land remain undeveloped as indicated by CAUV enrollment, which ranges from 19.9 to 49.7 percent of the land base in these counties. In addition, each county may have additional acreage not enrolled in CAUV that may be available for development.

Similarly, analysis suggests that NFS land does not negatively impact local tax revenues and school funding when all relevant information is considered (Koontz and Bodine, 2003). The five-year average for combined Federal payments to counties in the Forest vicinity was $2.74 per acre. Indirect tax revenue generated by Forest visitors is estimated at an additional $1.90 per acre annually. Combined, the estimated total of $4.69 per acre exceeds estimates for CAUV rates in all the sample taxing districts that have NFS land.

While providing this revenue, National Forests do not require the same level of county services as privately owned lands. Several studies show that open and forested lands typically require only about 37 cents in services for every dollar raised in revenue. Residential development, which is most likely in the rural inholdings within the Wayne, typically

requires about $1.16 in county services for every $1 in tax revenue contributed.

As timber revenues declined from their peak in 1985, school districts within the Wayne vicinity saw their Federal revenue sharing decrease. However, the levels of Federal revenue sharing do not appear to have been significant to the funding of any individual district. Of greater importance to the school districts is the State's school funding formula, which offsets the presence of NFS land by basing its funding formula on the assessed valuation, which does not include tax-exempt lands.

Environmental Justice

All Federal actions, including Forest Plan revisions and environmental impact statements, are required by Executive Order 12898 to address questions of equity and fairness in resource decision making. This section considers if any of the alternatives could disproportionately affect minority or low-income communities. The racial and ethnic composition of the analysis area is described above. Approximately three percent of the population within the analysis is non-white, compared to about 15 percent statewide. As reported in the description of the economic environment, communities in the Forest vicinity generally have a lower average household income and higher rates of unemployment than the state at large. There is no indication that any of the alternatives would adversely or disproportionately affect racial minorities or low income groups.

Heritage Resources

Significant differences in effects to heritage resources by alternative implementation are not expected. Because law, regulation, and policy explicitly control heritage resource management on Federal lands, Forest management practices and their effects would not differ substantially among the alternatives. Forest management projects may cause surface disturbances and bring additional people in contact with heritage resources, but the difference between alternatives would remain low because of the protection and mitigation measures common to all alternatives. In general, alternatives that would result in more acres of planned and budgeted management activities could reduce adverse cumulative effects to some degree, due to an increase in inventory and evaluation. However, this additional management may also bring more possibility of inadvertent damage. Again, the protection and mitigation measures common to all alternatives would provide for identified site integrity.

Effects that Vary by Alternative

This section looks at how the alternatives differ in how they would affect the local economy. An economic model was used to estimate the impacts of goods and services provided by the WNF. The model does not consider non-market valued goods and services. Effects such as scenery, water quality, and wildlife habitat, are addressed elsewhere in this Final EIS. This section considers timber production in some detail, because it is the economic factor that varies most among alternatives.

Economic Effects

Timber production, oil and gas production, and recreational opportunities on the Forest affect employment and income in southeastern Ohio. These effects would not be confined to the industries directly involved in these activities, but rather would extend to other related industries. Based on model projections, the estimated total number of jobs created by both direct and indirect effects would range from 694 jobs in Alternative B to 740 jobs in Alternative D. Labor income would increase from $20.6 million under Alternative F to $22.1 million under Alternative D. While these numbers are modest compared with the economy of the entire region, it is important to note that southeast Ohio is depressed economically, so that even small improvements are important. As illustrated in Table 3 - 92, recreation, wildlife and fish resources, timber and mineral production, and Forest Service salaries and contracts all affect local employment. Of these sectors, however, only the effects of timber production would vary substantially among the alternatives.

Table 3 - 92. Employment contributed by program by alternative (Average Annual, Decade 1).

Resource	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
Recreation	187	191	184	191	189	189	183
Wildlife and Fish	72	74	71	74	73	73	70
Grazing	0	0	0	0	0	0	0
Timber	35	145	184	189	191	190	156
Minerals	87	88	86	88	88	88	86
Payments to States/Counties	3	7	7	7	7	7	6
Forest Service Expenditures	177	189	189	190	190	190	189
Total Forest Management	560	694	720	740	738	737	689
Percent Change from Current	---	23.8%	28.5%	32.1%	31.6%	31.6%	23.0%

Table 3 - 93. Labor income in millions of dollars by program by alternative (Average Annual, Decade 1; $1 million).

Resource	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
Recreation	$3.9	$4.0	$3.8	$4.0	$3.9	$3.9	$3.8
Wildlife and Fish	$1.6	$1.6	$1.5	$1.6	$1.6	$1.6	$1.5
Grazing	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Timber	$1.1	$4.4	$5.6	$5.7	$5.8	$5.7	$4.7
Minerals	$2.6	$2.6	$2.6	$2.6	$2.6	$2.6	$2.5
Payments to States/Counties	$0.1	$0.2	$0.2	$0.3	$0.2	$0.2	$0.2
Forest Service Expenditures	$7.3	$7.8	$7.8	$7.9	$7.9	$7.9	$7.8
Total Forest Management	$16.5	$20.7	$21.6	$22.1	$22.0	$21.9	$20.6
Percent Change from Current	---	25.8%	31.0%	34.2%	33.8%	32.7%	25.4%

Table 3 - 94. Employment by major industry by alternative (Average Annual, Decade 1).

Industry	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
Agriculture	10	11	10	11	11	11	10
Mining	4	5	4	5	5	5	4
Construction	68	72	70	72	72	72	69
Manufacturing	35	98	122	125	126	126	105
Transportation, Communication, & Utilities	15	20	20	21	21	21	19
Wholesale trade	16	20	21	22	22	22	20
Retail trade	141	156	155	160	159	159	152
Finance, Insurance, & Real Estate	17	21	22	22	22	22	21
Services	121	141	142	147	146	146	138
Government (Federal, State, & Local)	134	149	150	153	152	151	148
Miscellaneous	2	2	2	2	2	2	2
Total Forest Management	560	694	720	740	738	737	689
Percent Change from Current	---	23.8%	28.5%	32.1%	31.6%	31.6%	23.0%

Table 3 - 95. Labori in millions of dollars by major industry by alternative (Average Annual, Decade 1; $1 million).

Industry	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
Agriculture	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2
Mining	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1
Construction	$1.7	$1.8	$1.8	$1.9	$1.8	$1.8	$1.8
Manufacturing	$1.3	$3.3	$4.0	$4.1	$4.1	$4.1	$3.5
Transportation, Communication, & Utilities	$0.7	$0.9	$1.0	$1.0	$1.0	$1.0	$0.9
Wholesale trade	$0.7	$0.8	$0.9	$0.9	$0.9	$0.9	$0.8
Retail trade	$2.2	$2.5	$2.5	$2.6	$2.5	$2.5	$2.4
Finance, Insurance, & Real Estate	$0.5	$0.6	$0.6	$0.6	$0.6	$0.6	$0.6
Services	$2.6	$3.1	$3.1	$3.2	$3.2	$3.2	$3.0
Government (Federal, State, & Local)	$6.6	$7.4	$7.4	$7.6	$7.5	$7.5	$7.4
Miscellaneous	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total Forest Management	$16.5	$20.8	$21.6	$22.2	$22.1	$22.1	$20.7
Percent Change from Current	---	25.7%	30.9%	34.0%	33.6%	33.6%	25.3%

Table 3 - 96. Forest Service revenues and payments in millions of dollars to counties (Annual Avg, Decade 1; $1 million).

Forest Service Program	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
Recreation	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2	$0.2
Wildlife and Fish	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Grazing	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Timber	$0.2	$0.8	$0.9	$0.9	$0.9	$0.9	$0.7
Minerals	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Soil, Water & Air	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Protection	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total Revenues	$0.4	$1.1	$1.2	$1.2	$1.2	$1.2	$1.0
Payment to States/Counties	$0.1	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3

Table 3 - 97. Current role of Forest Service-related contributions to the area economy.

	Employment (jobs)		Labor Income ($ million)	
Industry	Area Totals	FS-Related	Area Totals	FS-Related
Agriculture	11,857	10	$116.2	$0.2
Mining	4,000	4	$107.8	$0.1
Construction	22,223	68	$705.9	$1.7
Manufacturing	39,270	35	$1,809.0	$1.3
Transportation, Communication, & Utilities	13,828	15	$605.2	$0.7
Wholesale trade	10,163	16	$365.2	$0.7
Retail trade	62,876	141	$959.8	$2.2
Finance, Insurance, & Real Estate	15,130	17	$321.5	$0.5
Services	85,894	121	$2,304.5	$2.6
Government (Federal, State, & Local)	53,488	134	$2,011.9	$6.6
Miscellaneous	1,817	2	$15.8	$0.0
Total	320,548	560	$9,322.8	$16.5
Percent of Total	100.0%	0.2%	100.0%	0.2%

Suited Forestlands

Suited forestlands are lands managed for timber production on a regulated basis. Determining forestland suitability is described in 36 CFR 219.3 and 219.14. The first step separates "forestland" from "non-forestland" like permanent openings and water. "Forestland" is then divided into:

- Lands withdrawn from timber management by an Act of Congress, the Secretary of Agriculture, or the Chief of the Forest Service
- Lands which the Forests cannot assure restocking within 5 years
- Lands where irreversible damage to soil or watersheds would occur.

The remainder is called "tentatively suited" forestlands. To determine total acreage of "suited forestlands", the tentatively suited forestland is further reduced by land allocation decisions and site-specific issues made during forest planning. These reductions include management area designations, excessive road costs, designated recreation areas, and threatened, endangered and sensitive species habitat. Alternative A would have the greatest amount of suitable forestland, approximately 170,884 acres, while Alternative F would have the least, approximately 131,613 acres. The total National Forest land base is 238,053 acres, so the percentage of NFS land on the Wayne that qualifies as suitable timber lands varies from 72 to 55 percent. (Table 3 - 98.)

Table 3 - 98. Suitable acres by management area and alternative.

Management Areas	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	E Modified (Selected)	Alt. F
DCF	131,298	14,268	81,624	69,950	46,580	46,580	32,247
DCFOHV	32,808	20,186	31,968	20,510	14,550	14,550	14,543
FSM	0	111,030	20,260	35,664	47,721	45,541	29,758
FSMOHV	0	12,622	0	0	0	0	0
GFM	0	0	3,281	3,281	3,281	3,281	3,281
HF	0	0	17,076	17,076	24,679	24,679	24,663
HFOHV	0	0	0	11,458	17,417	17,417	17,417
RC	6,778	6,778	9,704	9,704	9,704	9,704	9,704
TOTALS	**170,884**	**164,884**	**163,913**	**167,643**	**163,932**	**161,752**	**131,613**

Allowable Sale Quantity

Allowable Sale Quantity (ASQ) is the maximum timber volume production permitted from suited forestland within the constraints of a Forest Plan over a decade. Only volume produced from timber harvesting on suitable forestlands contributes to ASQ. Timber harvesting may be used as a management tool on other Forest lands, however, the volume removed does not contribute to meeting the ASQ.

The 1988 Forest Plan's Allowable Sale Quantity (ASQ) is 1.25 MMCF (7.5 MMBF) feet per year. This total includes 1.09 MMCF (6.5 MMBF) of hardwoods and 0.17 MMCF (1.0 MMBF) of pine. Amendment 11 to the 1998 Forest Plan projected an average annual timber harvest of 0.33 MMCF (2.0 MMBF) from 1998 to 2002. (Note: MMCF is one million cubic feet. MMBF is one million board feet International scale and MBF is one thousand board feet.) During the first two years of the 1988 Plan, timber sale volume was near the Plan's projected output. From 1990 to 1995, however, the volume sold went down. Figure 3 - 55 shows the harvests achieved from 1988 through 2003. In addition to the volumes depicted below, very little timber has been harvested since 2003. Approximately 86 MBF was harvested from the Markin Fork Timber Sale in the autumn of 2003 and spring of 2004.

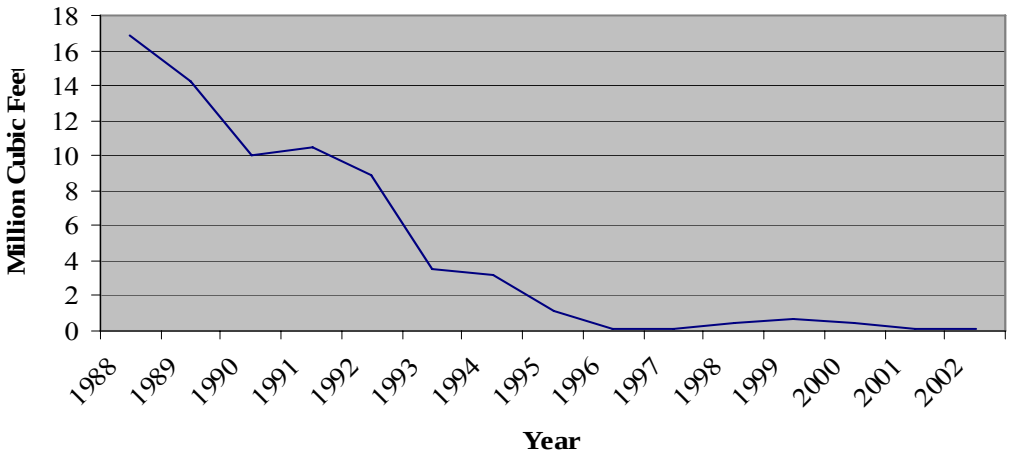

Figure 3 - 55. Harvests on the WNF from 1988 through 2003.

Effects of Management Area Allocation on Allowable Sale Quantity

The Allowable Sale Quantity (ASQ) varies among the alternatives (Table 3 - 98). This variation is a result of land allocation to different management areas as well as variations in the standards and guidelines for each management area. These affect the quantity of land available for treatment plus the intensity of the treatments. ASQ is based on the volume of wood produced from treatments on suited lands. Timber may be harvested to improve stand conditions for the remaining trees, create wildlife habitat, modify the scenic qualities, or to create conditions suitable for tree regeneration. Timber products produced from these harvests are intended to meet some of society's needs. These products are also a part of the Allowable Sale Quantity (ASQ), which is the maximum timber volume capability of an alternative given its management area (MA) assignments.

Suited lands lie within the following management areas: Diverse Continuous Forest, Diverse Continuous Forest with OHV, Forest and Shrubland Mosaic, Forest and Shrubland Mosaic with OHV, Grassland and Forest, Historic Forest, Historic Forest with OHV, and River Corridor. Timber affected by natural mortality events such as fire, windstorms, or insect infestations may be harvested under salvage sales. Any harvest in these management areas would be to meet other objectives and would not contribute to ASQ.

Table 3 - 99. Maximum average annual timber output by alternative (Volume in MMBF).

Decade	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
1	2.0	8.4	8.7	9.0	8.4	8.3	7.2
2	2.0	8.4	8.7	9.0	8.9	8.8	7.2
3	2.0	17.9	15.0	10.1	15.0	14.8	11.9
4	4.8	17.9	15.0	10.1	15.0	14.8	11.9
5	4.8	17.9	15.0	10.1	15.0	14.8	11.9
6	4.8	17.9	15.0	10.1	15.0	14.8	11.9
7	5.1	17.9	15.0	10.1	15.0	14.8	11.9
8	5.1	22.1	15.0	10.1	15.0	14.8	11.9
9	6.0	22.1	15.0	10.1	15.0	14.8	11.9
10	6.0	22.1	15.0	10.1	15.0	14.8	11.9
11	6.0	22.1	15.0	10.1	15.0	14.8	11.9
12	6.0	22.1	15.0	10.1	15.0	14.8	11.9
13	6.0	22.1	15.0	10.1	15.0	14.8	11.9
14	6.0	22.1	15.0	10.1	15.0	14.8	11.9
15	6.0	22.1	15.0	10.1	15.0	14.8	11.9
Totals	72.6	283.1	212.4	215.6	212.3	209.5	169.11
Maximum Yearly Average	**4.8**	**18.9**	**14.2**	**14.4**	**14.2**	**14.0**	**11.3**

For the first decade, the ASQ would be highest under Alternative D and lowest in Alternative A. Over the next 100 years, the highest maximum volume would be in Alternative B, and lowest in Alternative A.

The wood harvested from Wayne National Forest land would be a part of the overall timber industry in Ohio. Ohio's forest industry is an extremely important segment of Ohio's economy, particularly in the eastern and southern portions of the state. Between 300 and 500 million board feet of wood are cut from Ohio's forests each year to produce an endless list of paper and wood products. As future demand for forest products increase and to the extent the availability of public forest land for timber harvesting is reduced, private forest land will increasingly be depended upon to meet the demand. (ODNR, 2005)

Long Term Sustained Yield

Long-Term Sustained Yield (LTSY) is the highest uniform wood yield from suited forestlands sustained under specific management intensity consistent with an alternative's objectives. LTSY is displayed for the alternatives in

Figure 3 - 56.

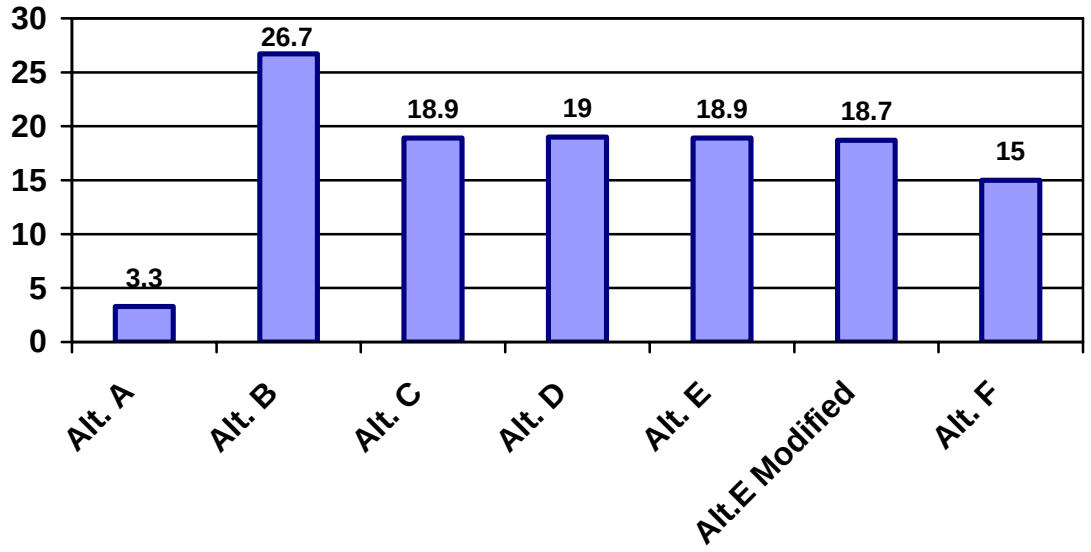

Figure 3 - 56. Long Term Sustained Yield by Alternative Volume in MMBF per Year.

The LTSY ranges from a high of 26.7 million board feet per year in Alternative B to a low of 3.3 million board feet per year in Alternative A.