CHAPTER TWO – INVENTORY AND ANALYSIS

The comprehensive plan establishes the framework for decision making in a community. The foundation of this framework is a clear understanding of population characteristics, natural features and their relationship to an ever changing community. During the inventory process, the Comprehensive Plan Committee, subcommittees and short term volunteers collected, reviewed and analyzed various pieces of information related to growth, natural resources municipal services and other factors critical to the sound management of growth in the Town. In this chapter we will examine many of the characteristics that combine to define what we might term the "community character" of New Gloucester. Keep in mind while reading that each issue represents a constraint opportunity with respect to the Town's future growth.

1. Location

The Town of New Gloucester is located on the northern boundary of Cumberland County and is a large town with a total area of 48.6 square miles, which includes a beautiful village area and many acres of farmland and forest. The town borders Durham, Pownal, North Yarmouth, Gray, Raymond, Poland, and the City of Auburn. The Lower Village is approximately 25 miles north of Portland and 11.5 miles south of the Lewiston-Auburn area.

The main lines of transport are along U.S. Route 202 (Maine Route 100) and Maine Route 26, which runs in a north-south direction through the town. The Maine Turnpike passes through the town, with exits nearby on Route 100 in Gray and Auburn. Two railroad lines also run through town. They are maintained by the Maine Central and Canadian National Railroads.

2. Town History

Settled in the 1740's by men from Gloucester, Massachusetts, who saw the promise of its fertile intervale and wooded hills, New Gloucester was soon completely abandoned in the face of hostile Indian action. Settlers returned in the 1750's and obtained the town's incorporation in 1774, only to be pitched into the turmoil of Revolution. With peace and a new national Constitution, the town achieved sudden prominence as a court seat for western Cumberland County and as a supply and transportation center for lumbering and farming in the surrounding region. Mills, shops, and inns were numerous. Great homes were built, and huge farms were laid out and worked as the town prospered. Active schools, three churches, and the Shaker community brought a spiritual dimension to the town.

After 1850, New Gloucester lost it prominence. The action shifted to the cities, to the great plains of the west, to the wilderness of northern Maine, as an expanding railroad network made possible the development and marketing of resources on a national scale not previously possible. In the present century, New Gloucester became a placid and still prosperous farming community, serene in relative isolation as the major roads of the automobile age passed its centers by.

New products, methods, and markets have now thinned the ranks and tightened the belts of the town's farmers. Manufacturing and crafts are returning as profitable activities, and logging is again feasible on newly matured stands of timber. Commuters make their homes in New Gloucester, and nearby cities are growing steadily toward town. The ultimate

challenge to today's residents is to preserve and maintain the Town's rural characteristics in the face of this change.

A more detailed history of the town, prepared by the New Gloucester Historical Society, is attached to this plan as Appendix B.

3. Regional and National Trends in Population

Anticipating population growth is an integral part of planning for the future. Such projections of future population depend on a solid understanding of historical growth trends in the Town of New Gloucester, the region and the nation.

The most significant national trend which must be analyzed is what's known as the "baby boom". The baby boom refers to those people who were born in the post World War II era of economic prosperity. In general, people born between 1946 and 1964 are considered "baby boomers". The boom refers to the jump in the number of children that were born during these years compared to years immediately before and after. If numbers of births are plotted for the 1940 and 1989 periods, the baby boom period would clearly stand out.

The period between 1965 and 1976 is known as the "baby bust" since the actual number of children born in each year dropped significantly compared to that of the baby boom period. This trough in the birth rate has occurred due to the lifestyle decisions of the baby boomers. These people remained single and delayed child birth longer than previous generations. Because of this delay in having children, a new "baby boomlet" has occurred. Sometimes referred to as the "echo effect" of the baby boom, the number of births picked up considerably beginning in 1977. While not quite as strong in number as the baby boom, the boomlet is just now reaching the elementary schools of communities across the country.

Maine is typical in that the combined effect of the baby bust and boomlet is that overall school enrollments may be decreasing; however, the elementary schools are beginning to swell with students. The baby bust will soon be through the school system (1994 for the last of the group). The baby boomlet may force expansions of all types of schools as they age and move through the school system.

Such waves of population in the United States are extremely important, since overall, the U.S. is not growing very rapidly. Total numbers of people do not change drastically, rather the age structure is the most dominant trend in U.S. population study. This factor is also important to understand at the local level. Whenever an area experiences rapid population growth, the growth is primarily due to families moving into an area as opposed to children being born. The primary driver of local population growth is economic opportunity. When a region experiences economic expansion, population growth generally follows. Economic expansion has certainly been a factor in the growth of Southern Maine communities since total employment has increased very rapidly during the mid 1980's.

Another factor which has influenced growth in New Gloucester is the immigration of people from surrounding communities where land and housing costs are higher. The high percentage of housing starts that were manufactured units is evidence of that trend.

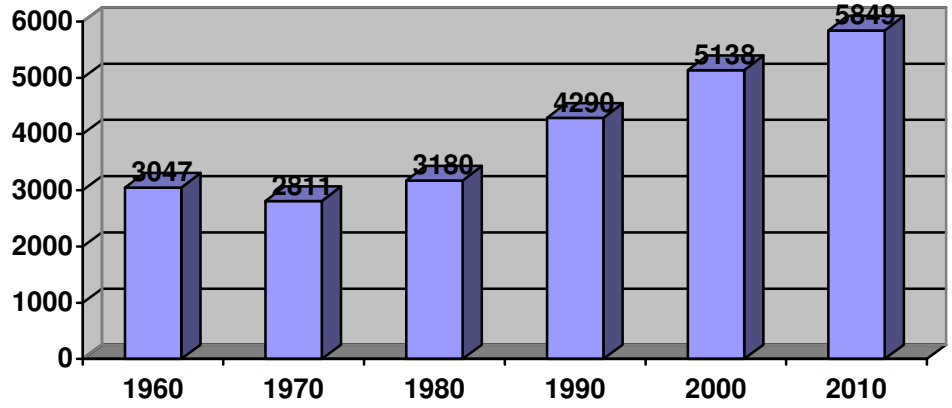
4. Local Population Changes

Between 1970 and 1980, the Town of New Gloucester increased in population by 13%; between 1980 and 1988, the Town population increased by 28%. By 2000, the population of the Town is expected to each 5,138, an additional 26% increase from 1988. Exhibit 1 on the following page displays actual population growth as documented by the U.S.

Census for 1960, 1970 and 1980, as well as projected population figures for the years 1990 through 2010. These projections were prepared by the Greater Portland Council of Governments and are based on the most recent decade's growth experience. COG's population counts for 1990 are 280 persons higher than the preliminary census figures. When these are finalized by the Federal Government in April, 1991, revised projections will be made available by COG.

Exhibit 1

TOTAL POPULATION
NEW GLOUCESTER
1960 – 2010

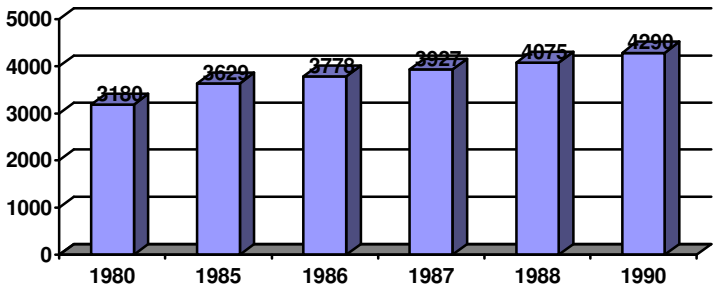


Source: US Census, GPCOG

To derive these projections of population, growth in the 1980's was examined. Between 1980 and 1988, COG estimates that population increased by 32%. The peak years of growth during this period occurred in the 1985 to 1987 period. The growth rate during these two years was nearly 5% for each year. During the 1980 to 1985 period, annual growth rates were around 3%. Exhibit 2 below displays the estimated population growth for the 1980 to 1990 period.

Exhibit 2

TOTAL POPULATION
NEW GLOUCESTER
1980 - 1990

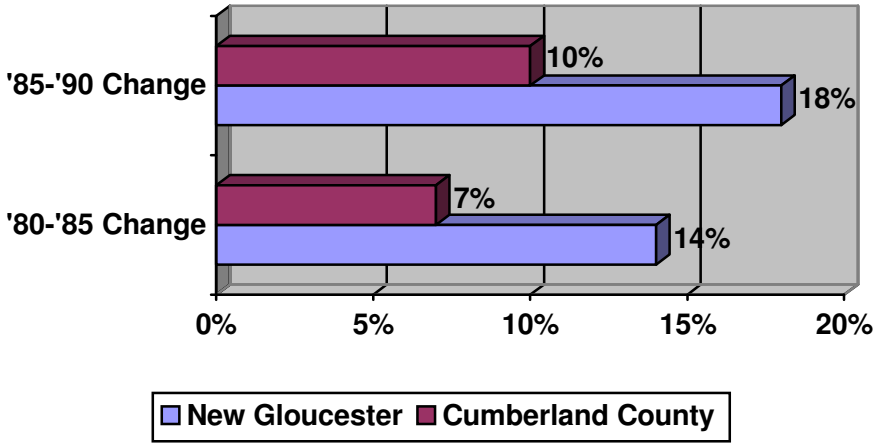


Source: US Census, GPCOG

The primary cause of growth during this decade is in-migration – new residents moving into the community. Most communities in Cumberland County have experienced a similar growth pattern during this time; however, New Gloucester was one of the fastest growing communities during the 1985 to 1987 period. New Gloucester's proportion of Cumberland County's population is increasing since New Gloucester has increased at a faster rate than the County during the 80's and is expected to continue to increase faster through year 1997. In 1980, New Gloucester accounted for 1.5% of Cumberland County's population; in 1987, New Gloucester accounted for 1.6% of the County population; and by the year 2000, New Gloucester will account for 2.0% of the population in Cumberland County. Exhibit 3 below displays New Gloucester's population growth compared to Cumberland County's population growth for the 1980's period.

Exhibit 3

Population Growth in Cumberland County and New Gloucester



Certainly, New Gloucester's locational advantages are a significant factor in the new population growth. New Gloucester is strategically placed in comfortable commuting distance from both the Portland and Lewiston/Auburn urban centers. New Gloucester can draw upon both urban centers for residents.

Exhibits 4 and 5 on the following page display more detailed population projections for the Town of New Gloucester and Cumberland County. Population has been broken up into five-year age groupings so that we can examine the age structure of the expected population. This dissection of the age structure illustrates some of the national trends discussed above. Specifically, in 1988, New Gloucester clearly sees the impact of the "baby boomlet" in the 0 to 4 age groups. This age group increased 40% over 1980 levels. The 10 to 14 age group shows the effect of the "baby bust" in New Gloucester. This group decreased by 109 people while the population as a whole increased by 28%. In 1980, the 10-14 age group accounted for 11.3% of the total population; by 1988, this group accounted for only 6.2% of the population. At the other end of the age structure, the

elderly are also increasing in numbers (7.6% of the population in 1980 to an anticipated 9.0% in 2000). The first of the baby boomers will begin to hit retirement by 2011; therefore, we can expect an ever increasing percentage of the population to fall into the over 65 age brackets. This will augment the existing nationwide trend of a growing elderly population caused by longer life spans.

Exhibit 4

NEW GLOUCESTER
POPULATION ESTIMATES & PROJECTIONS
1980 – 2010

COHORT	TOTAL POP. 1980	TOTAL POP. 1988	TOTAL POP. 1990	TOTAL POP. 1995	TOTAL POP. 2000	TOTAL POP. 2005	TOTAL POP. 2010
0 – 4	226	318	315	311	309	313	321
5 – 9	239	278	298	323	318	322	313
10 – 14	360	251	266	306	330	331	322
15 – 19	282	303	284	270	310	338	331
20 – 24	249	380	361	307	293	353	340
25 – 29	308	359	386	396	341	358	356
30 – 34	299	397	406	432	442	428	363
35 – 39	230	416	427	441	465	506	430
40 – 44	178	372	408	460	473	528	507
45 – 49	169	261	308	417	469	492	526
50 – 54	147	199	225	306	410	468	474
55 – 59	109	169	180	220	298	401	449
60 – 64	142	132	146	175	213	290	385
65 – 69	102	108	115	142	170	208	279
70 – 74	61	105	103	102	125	152	181
75+	79	27	62	130	172	219	272
Total	3180	4075	4290	4738	5138	5707	5849

Exhibit 5

CUMBERLAND COUNTY
POPULATION ESTIMATES & PROJECTIONS
1980 – 2010

COHORT	TOTAL POP. 1980	TOTAL POP. 1988	TOTAL POP. 1990	TOTAL POP. 1995	TOTAL POP. 2000	TOTAL POP. 2005	TOTAL POP. 2010
0 – 4	13, 818	18,281	18,193	17,608	16,849	16,272	16,990
5 – 9	14,876	17,213	17,740	18,354	17,809	17,329	16,546
10 – 14	17,331	14,760	15,842	17,901	18,554	18,288	17,601
15 – 19	20,024	16,307	15,743	15,944	18,028	18,865	18,462
20 – 24	19,752	20,025	18,872	16,295	16,628	19,629	19,774
25 – 29	19,280	22,787	22,189	19,717	17,349	19,068	21,024
30 – 34	16,998	23,519	23,909	23,312	21,116	20,607	20,940
35 – 39	13,074	21,823	22,989	24,722	24,326	23,525	21,984
40 – 44	10,817	18,552	20,344	23,734	25,654	26,647	24,817
45 - 49	10,012	13,636	15,629	20,499	23,932	26,300	26,939
50 – 54	11,338	11,095	12,061	15,252	19,982	23,651	25,649
55 – 59	10,958	10,510	10,644	11,705	14,796	19,524	22,912
60 – 64	10,013	10,589	10,426	10,285	11,316	14,379	18,851
65 – 69	8,720	9,381	9,545	10,080	9,955	11,037	13,911
70 – 74	7,208	7,762	8,017	8,431	8,897	8,869	9,744
75+	11,570	11,190	12,342	15,002	17,043	18,730	19,756
TOTAL	215,789	247,429	254,487	268,842	282,236	302,721	315,900

The adult years, between 20 and 64, show some large increases due to two factors already discussed: the baby boom and in-migration. The baby boomers are and will continue to be the dominant influence in these cohorts until 2011. In-migration is a significant factor in the young adult years due to the characteristics of those who tend to move. Young adults are the most likely age group to move from town to town.

One last aspect of population which is particularly important in Maine towns is seasonal residents. Just over 12% of New Gloucester's total housing units were seasonal according to the 1980 Census. If all of the 132 seasonal units were occupied, New Gloucester would increase its population during the summer by 400 people. No current update on these seasonal housing units is available. Tracking of conversions of seasonal housing units to year-round housing units is difficult. The trend in many towns within Cumberland County has been that many seasonal units are being converted to year-round housing to satisfy the recent demand for housing, particularly moderately priced housing.

5. Housing

Housing is another critical aspect of planning in a community. The trend in conversions is a symptom of some larger issues concerning the overall demand for housing during the 1980's. In general, housing is one of the primary indicators of population growth in an area. However, because of changes in the characteristics of the existing population such as smaller household sizes, it is possible to have demand for new housing without population growth.

This demand for housing is created by several forces. First, as discussed above, the largest segment of the baby boomers has reached the young adult stage where they are moving away from home and beginning their own households. This is the predominant force in the nationwide housing boom during the 1980's. As the baby boomers began to move away from home, the average household sizes decreased. The same number of people now required more housing units. This trend was exacerbated by a few other characteristics of the baby boomers: baby boomers delayed marriage and child birth longer than the previous generation. The elderly also added to the demand for housing as older adults began retaining their individual homes longer than previous decades. The combination of all these factors resulted in a demand for housing even if population remained unchanged. In New Gloucester, the combination of both demand for new housing due to life style preferences of the baby boomers and the immigration resulted in increase in the housing stock.

The housing unit data in Exhibit 6 on the following page was obtained through building permit information reported by the code enforcement officer to the State. If these building permits are added to the existing housing stock as of 1980, the Town of New Gloucester had a total of 1,378 year-round units as of the end of 1989. (Units permitted in 1980 are discounted by 25% to account for those units which were completed by the time the Census was completed in April, 1980). In 1980 the Town's total number of year-round housing units was 945. By 1989, the year round housing stock had increased by almost 46%. Exhibit 6 also shows the peak growth period of 1985-87 and the subsequent effect of the building permit limitation.

Exhibit 6

		NEW HOUSING UNITS BY TYPE			
		TOWN OF NEW GLOUCESTER			
		1980 - 1989			
				SINGLE FAMILY	
	SINGLE FAMILY	MULTI-FAMILY	TOTAL	% OF TOTAL	
1980	18	0	18	100.00%	
1981	28	0	28	100.00%	
1982	28	0	28	100.00%	
1983	41	0	41	100.00%	
1984	52	4	56	92.86%	
1985	53	6	59	89.83%	
1986	66	4	70	94.29%	
1987	59	8	67	88.06%	
1988	45	0	45	100.00%	
1989	39	0	39	100.00%	
TOTAL	429	22	451	95.12%	
SOURCE: Municipal Profile, Update 1989, Greater Portland Council of Governments					
1980, U.S.CENSUS					

Exhibit 7 on the following page displays housing unit increases for most of the communities within Cumberland County. Compared to the rest of Cumberland County, New Gloucester had the 7th largest increase in year-round housing units between 1980 and 1990. New Gloucester's immediate neighbors have also experienced growth in housing units. Gray and Raymond grew faster than New Gloucester, while North Yarmouth and Pownal grew at slower rates.

The relationship between population and housing units is also important. In 1980, the average number of people living in an occupied housing unit was 3.01. By 1987, the average household size in New Gloucester is estimated to have been 2.88 (GPCOG). By the year 2000, COG estimates New Gloucester household size at 2.56. Again, this drop in household size is due to the lifestyle characteristics described above.

Vacancy rates for housing units in 1980 was 3.2%. This vacancy rate may have actually dropped slightly in the mid to late 80's because of the demand for housing. Approximately 84% of New Gloucester residents own their homes (1980 Census).

In Exhibit 8, on page 22, we have projected the total number of year round housing units in New Gloucester through 2000 using a COG housing projection model. Based on those projections, New Gloucester can expect a net increase of approximately 458 units in the planning period, for an average increase of almost 46 units per year. By 2000, this would suggest an overall increase in the housing stock of almost 32%, or a 3.2% increase annually. Obviously, with changes in the trend of persons per unit and total population, we can expect some deviation from this estimate.

EXHIBIT 7

COMPARISON OF RESIDENTIAL UNIT GROWTH
IN CUMBERLAND COUNTY MUNICIPALITIES: 1980 TO 1989

TOWN	Total Units 1980	Total Units 1989	New Units '80-'89	% Increase '80-'89	% of County In 1980	% of County New Units	% of County In 1989	% MF 1980	% MF 1989
NAPLES	719	1,207	488	67.8%	0.9%	2.8%	1.2%	4.7%	7.5%
BRIDGTON	1,470	2,411	941	64.0%	1.8%	5.4%	2.4%	17.1%	25.1%
HARRISON	622	998	376	60.4%	0.7%	2.1%	1.0%	8.0%	5.6%
RAYMOND	801	1,266	465	58.0%	1.0%	2.6%	1.3%	6.5%	5.4%
GRAY	1,564	2,317	753	48.1%	1.9%	4.3%	2.3%	9.4%	8.4%
CASCO	814	1,169	355	43.6%	1.0%	2.0%	1.2%	5.2%	7.1%
NEW GLOUCESTER	945	1,355	410	43.4%	1.1%	2.3%	1.3%	6.4%	6.1%
N. YARMOUTH	607	868	261	42.9%	0.7%	1.5%	0.9%	10.2%	7.4%
STANDISH	2,082	2,756	674	32.4%	2.5%	3.8%	2.7%	5.4%	4.8%
SCARBOROUGH	4,056	5,351	1,295	31.9%	4.9%	7.4%	5.3%	14.0%	13.8%
FREEPORT	2,209	2,890	681	30.8%	2.7%	3.9%	2.9%	15.5%	16.8%
CUMBERLAND	1,730	2,262	532	30.8%	2.1%	3.0%	2.3%	3.6%	3.2%
WINDHAM	3,731	4,787	1,056	28.3%	4.5%	6.0%	4.8%	13.5%	16.4%
YARMOUTH	2,561	3,230	669	26.1%	3.1%	3.8%	3.2%	34.0%	35.4%
GORHAM	3,350	4,201	851	25.4%	4.0%	4.9%	4.2%	17.9%	17.0%
SEBAGO	417	516	99	23.7%	0.5%	0.6%	0.5%	5.0%	4.1%
BRUNSWICK	6,083	7,518	1,435	23.6%	7.3%	8.2%	7.5%	29.2%	27.6%
POWNAL	370	446	76	20.6%	0.4%	0.4%	0.4%	3.5%	2.9%
HARPSWELL	1,603	1,915	312	19.5%	1.9%	1.8%	1.9%	9.6%	8.0%
CAPE ELIZABETH	2,786	3,327	541	19.4%	3.4%	3.1%	3.3%	9.4%	9.0%
FALMOUTH	2,552	3,041	489	19.2%	3.1%	2.8%	3.0%	8.0%	9.4%
S. PORTLAND	8,425	9,784	1,359	16.1%	10.2%	7.7%	9.7%	33.6%	37.2%
WESTBROOK	5,631	6,303	672	11.9%	6.8%	3.8%	6.3%	39.5%	38.8%
BALDWIN	413	459	46	11.1%	0.5%	0.3%	0.5%	3.1%	2.8%
PORTLAND	27,440	30,149	2,709	9.9%	33.1%	15.4%	30.0%	61.5%	59.8%
CUMBERLAND CO.	82,981	100,526	17,545	21.1%	100.0%	100.0%	100.0%	33.9%	32.1%

Exhibit 8

Housing Projections

Year	Population	Housing Units
1980	3180	945
1988	4075	1333
1990	4290	1444
1995	4738	1673
2000	5138	1902

Increasing housing prices are another critical factor in Southern Maine and New Gloucester is no exception to the market pressures of the 80's. Between 1982 and 1988, average housing prices increased by 172%. (Housing value data represents the average selling price as reported by the Multiple Listing Service for Gray and New Gloucester area.) Controlled for inflation, housing values still increased by 122%. New Gloucester's increases in housing values outstripped many other areas in Cumberland County. Exhibit 9 shows actual and real (values controlled for inflation) housing values for New Gloucester, Windham and Portland.

Exhibit 9

Area Housing Values 1982 and 1988

NEW GLOUCESTER

Year	Actual	Real
1982	$42,000	$43,523
1988	$114,350	$96,661
% Change 82-88	172.26%	122.09%

WINDHAM

Year	Actual	Real
1982	$58,000	$60,104
1988	$102,500	$86,644
% Change 82-88	76.72%	44.16%

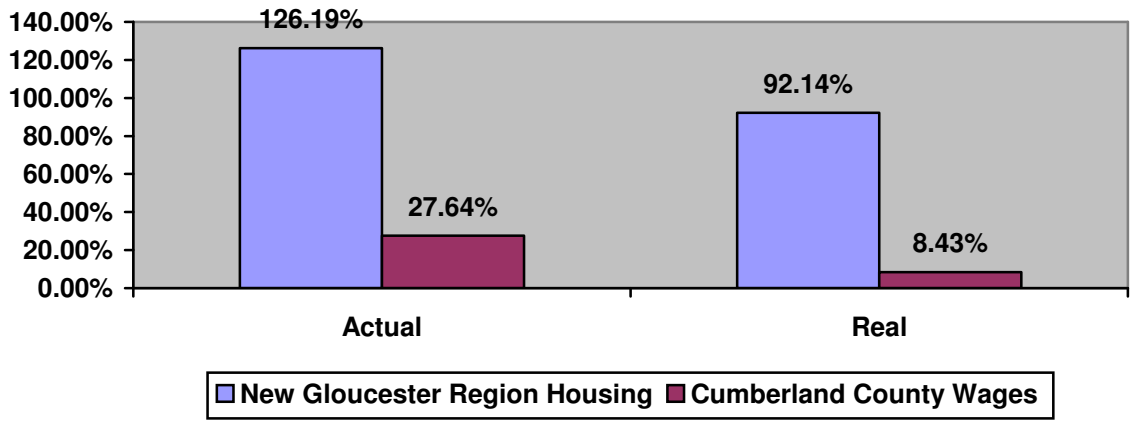
PORTLAND

Year	Actual	Real
1982	$49,000	$50,777
1988	$111,000	$93,829
% Change 82-88	126.53%	84.79%

Increasing home prices would be less of a concern if there were corresponding increases in wealth or income of local residents. However, this is not necessarily the case in Southern Maine and New Gloucester. While town-specific data on income is difficult to obtain, there are some indicators of wages and salaries which can be compared to the housing prices. Exhibit 10 compares the average increase in annual Cumberland County wages for the period of 1982 and 1987. Housing price increases are way above wage increases.

Exhibit 10

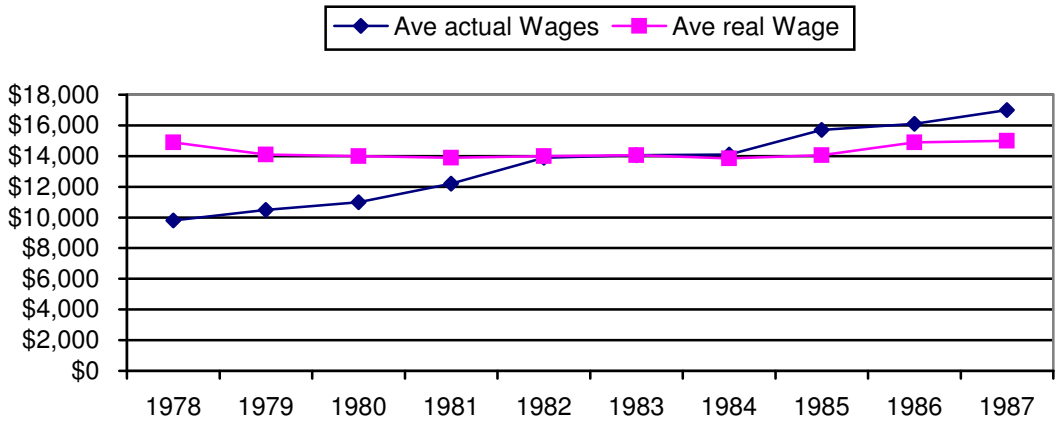
Percentage Change of Real and Actual Home Values & Wages
1982 – 1987



In fact, if average wages are examined over the longer period of 1978 to 1987, real wages (controlled for inflation) have remained virtually the same as illustrated in Exhibit 11.

EXHIBIT 11

Maine Actual vs Real Wages 1978-1987



Another indicator of changes in housing stock and their relationship with income and age groups is the condition of housing. The present condition of housing units in New Gloucester (in terms of excellent, good, fair, and poor condition) was taken from The Town Assessor's records for the year 1990. The 735 structures examined included commercial buildings, mobile homes, single family and multiple family dwellings and seasonal camps. These findings, which represent approximately 75% of the housing stock, are reported in Exhibit 12 below.

Exhibit 12

New Gloucester Housing Conditions – 1990

Condition	Commercial	Mobile	Single	Multi	Camps	Total
Excellent	0	0	.38%	0	0	.27%
Good	11%	8%	14%	0	0	12%
Average	89%	79%	75%	82%	82%	75%
Fair	0	11%	9%	18%	18%	10%
Poor	0	2%	2%	0	0	2%

The purpose for conducting this study was to not only assess housing condition, but also to test the committee's belief that housing conditions and incomes were more depressed then the generalized statistics were reporting. As the exhibit suggests, however, the condition of the majority of the housing in New Gloucester was average, or adequate for living purposes. In general, this was consistent throughout the results, although there should be some concern that multiple family housing had a somewhat larger percentage of housing rated as being in fair condition than other categories (discounting the importance of camps under this criteria).

6. Affordable Housing

The growth management law requires that communities effectively address the issue of providing/locating affordable housing within their jurisdictions. The law states that municipalities should seek to achieve a level of 10% of new residential development that meets the definition of affordable housing. "Affordable", according to the growth management law, means that housing shall be provided for very low income, low income and moderate income households. A housing unit is affordable to a particular household if the monthly shelter costs associated with the unit do not exceed a reasonable percentage of the household's monthly income (no more than 30% of monthly income for renters or more than 28% of monthly income for home owners). The Office of Comprehensive Planning has established criteria for affordable housing in New Gloucester. Exhibit 13 on the following page was developed using this criteria and statistical information for the non-MSA Greater Portland area. The established median annual family income for this area is $32,600.

Exhibit 13

Affordable Housing Criteria
New Gloucester – 1990

Category	Annual Income Range	% of Households	Affordable Monthly Rent	Affordable Selling Price
Very Low Income	up to $16,000	28%	up to $310	up to $28,800
Low Income	$16,300 to $26,080	20%	up to $570	up to $52,600
Moderate Income	$26,080 to $48,900	33%	up to $1,010	up to $102,800

Source: Interpreted from data supplied by the State of Maine, Office of Comprehensive Planning, 1990.

New Gloucester has aggressively dealt with the issue of affordable housing. Present land use ordinances include specific density bonuses for elderly housing and for affordable housing that meets low and very low income criteria. Cluster housing provisions also result in lower construction costs because of shorter roads, road frontages, smaller lots, and flexible standards for setbacks and required yards. There are also provisions in the current zoning ordinance for accessory apartments. In 1989, the Town enacted a mobile home park ordinance which devotes a considerably larger amount of land for additional mobile home parks than is required by projections. According to the Town, about 34% of the housing units in New Gloucester are mobile homes. The question that must be examined in the future is whether present strategies will continue to enable the Town to meet future goals for housing affordability.

To put the state guidelines into perspective, consider that if we are to attain the suggested amount of affordable housing (10% of new development) in the planning period, New Gloucester would need to add approximately 48 affordable units to the housing stock in the ten year period. Further, if we are to assume that rental stock continued to make up 16% of the housing stock, then it may be reasonable to assume that 8 of those units should be rental. On further examination, the 1989 average selling price of a house in New Gloucester specifically was $140,075, nearly 40% higher than the maximum selling price that would be available to those in the moderate income category in 1990.

7. The Economy

The previous discussion on income and housing will not be complete unless we analyze the sources of jobs in Cumberland County and New Gloucester. The County's economy must be examined since over 70% of the working residents of New Gloucester are employed outside the town borders. Twelve percent of the town's working residents commute to Portland and another 12% commute to Auburn. Both of these statistics are from the 1980 Census. No current updates are available. If current information were available, the Lewiston/Auburn area may begin to have a more substantial influence on the New Gloucester workforce due to recent economic promotion.

In Cumberland County, the largest source of jobs is in the services category (as classified by the Standard Industrial Classification Code of Department of Commerce). This group includes a wide range of employers from law firms to business services (typing services, etc.) to gas stations. The next largest employer is the retail trade sector. This sector is understandably large in Cumberland County since it is the home of the Maine Mall, the outlet centers in Freeport and the Windham Mall. These two industrial groups also accounted for some of the largest increases in employment between 1980 and 1987.

Unlike all other industrial groups, manufacturing employment decreased between 1980 and 1987. Again, this decrease in manufacturing employment reflects a nationwide trend. The decreasing manufacturing base is obviously a concern to economists. Historically, manufacturing jobs have provided the highest wages and the most progressive worker benefits of all industrial classifications. With the decreasing availability of such jobs and the increasing availability of service and retail jobs, workers may be taking on more than one job to earn the same wages as the old style manufacturing worker. The other trend is that there are more workers per household in the labor force. The increasing participation of women in the workforce has resulted from both personal choice and necessity. Many women are choosing work because of relatively greater choices in employment; while others are working due to the need to have two incomes to meet basic living expenses.

The increased participation by women in the workforce has temporarily offset the decreasing availability of young workers resulting from the baby bust. However, in Southern Maine, it was clear up until the recent recession that we were reaching a saturation point due to the record low unemployment rates. Unemployment rates in the Portland area were consistently under the 2% mark over the last two years. It is too soon to predict the overall effects of the recent economic downturn.

In New Gloucester, 37% of all jobs are in the construction category. The service category is the next largest industry group with 17% of the total employment. Construction employment more than doubled in New Gloucester between 1980 and 1987. Total employment in New Gloucester accounts for approximately .3% of all Cumberland County employment. Exhibits 14 and 15 compare the distribution of employment in New Gloucester and Cumberland County.

Exhibit 14

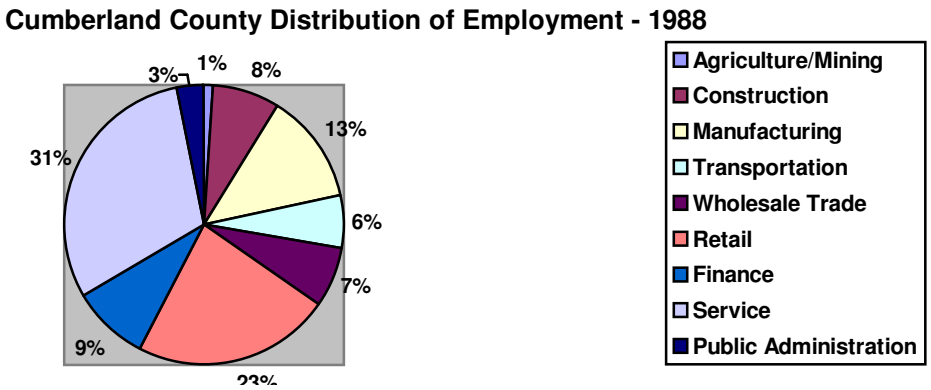
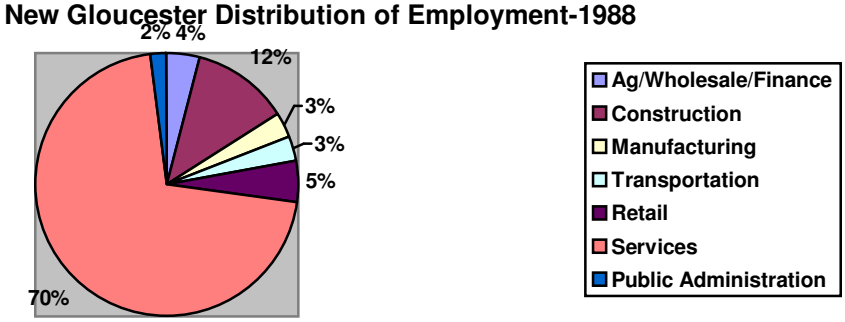


Exhibit 15



In just two years (between 1985 and 1987), the Town of New Gloucester increased its total employment by 27% (75 jobs). Exhibits 16 and 17 compare employment growth in Cumberland County and New Gloucester.

Exhibit 16

'80-'88 Employment Growth in Cumberland County

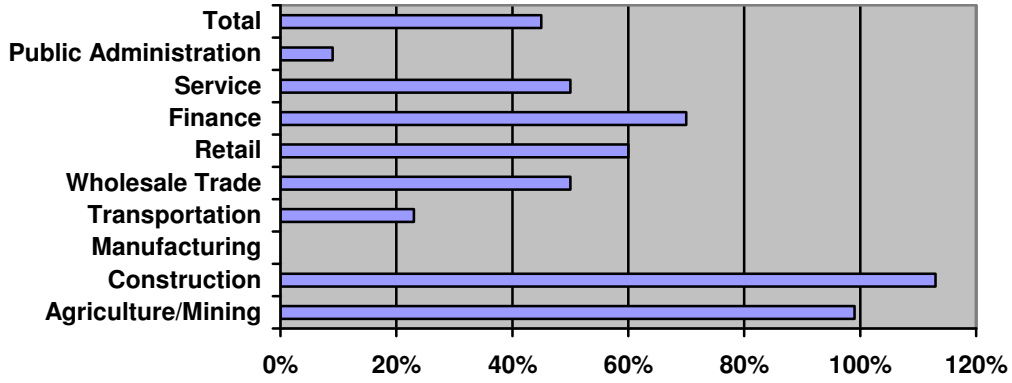
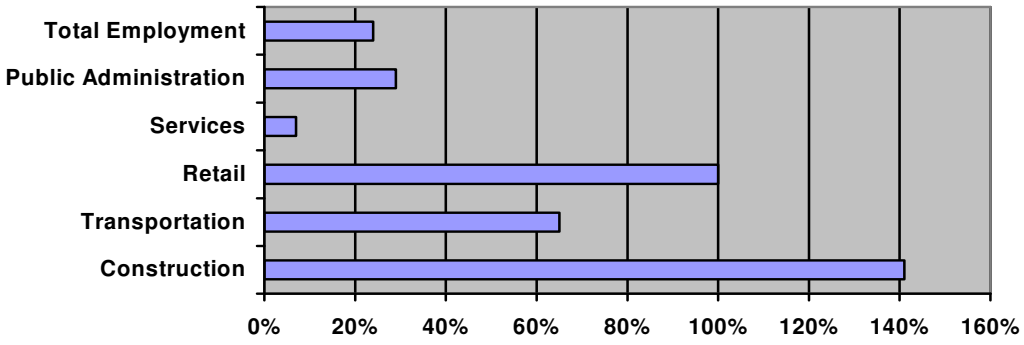


Exhibit 17

'80-'88 Employment Growth in New Gloucester



Small businesses are spread throughout the Town. Pockets of commerce around the Lower Village and Sabbathday Lake provide small business centers. The Upper Village has the majority of businesses, including restaurants, light manufacturing facilities, vehicle sales establishments, truck terminals and grocery stores. See the Land Use section in this chapter for a further discussion of commercial and industrial land use development.

8. Transportation Facilities and Services

New Gloucester is almost halfway between the center of Portland and Lewiston on Route 202, (Maine Route 100). The Town contains four of Cumberland County's major roadways. The first is Route 26 which services Portland, Falmouth, Cumberland, and Gray, before entering into New Gloucester. It spans through the western side of New Gloucester near Sabbathday Lake and continues into Poland Spring and on to Maine's western mountains. Route 26 is a favorite route of Canadian vacationers making their way to and from the Maine coast. The second major roadway is Route 4. Route 4 dissects New Gloucester and is an important link between Gray and Auburn. The third roadway is Route 231 which comes in from Yarmouth and makes its way through Foggs Corner and New Gloucester Station. The last major roadway is The Maine Turnpike which runs northerly from Gray into New Gloucester. The Turnpike runs parallel to Route 4 and provides very easy access to most of New Gloucester via Exits in Gray and Auburn.

Town Transportation Facilities and Services

Two sets of records concerning road classifications exist for New Gloucester. One record was prepared by the State of Maine and the other by the Town staff. A few discrepancies were observed in the comparison, but that was probably due to the fact that the classification for constructed roadway was inconsistent in both accounts. However, by using New Gloucester's record it is easier to see the breakdown of mileage and what is maintained by the Town.

The Town of New Gloucester owns 56 road segments, covering 61.18 miles of road. Of this mileage, 33.64 miles is dirt, while the remaining 27.54 miles is paved. New Gloucester maintains these roads year round and in the winter plows just over 52 miles of road.

The Town does not maintain any municipal parking lots as such, but does maintain the Town Garage parking lot for a park and ride program. There appears to be adequate parking facilities for local businesses most of which are located in the Upper Village.

State Transportation Facilities and Services

The State owns 19.35 miles of State Highway in New Gloucester which includes Routes 122, 231, 26, and 4. Interstate 95, both North and Sound bound lanes, amounts to an additional 12.95 miles of road. Total State maintained mileage in the Town is 32.31 miles.

The State of Maine owns 3 of the 20 bridges within the Town of New Gloucester. These range in length from 14 feet to 105 feet. Of the roads serviced by the bridges, only one is a town road. An inventory of bridges is included in Exhibit 18 on page 29.

Accident Data

Accident counts obtained from the Maine Department of Transportation show that there is a problematic incidence of accidents on a few roadway segments within the Town. The intersections of I-95 and Bridge 0296, and I-95 and Bridge 0298, and the area near the Universalist Church on Route 231 all recorded high critical rate factors within the past two year period. This is undoubtedly due to the large volumes of traffic being serviced by these major roadways. Accident data is show in Exhibit 19 on page 30.

Exhibit 18

New Gloucester Bridges

Name	Over	Roadway	Length	Owner	Maintainer	Road
Woodmans	Royal River	RTE. 231	75 Feet	State	State	State
Outlet	Royal River	Town Way	14 Feet	Town	Town	Town
Cobbs	Royal River	Trapp RD	105 Feet	State	State	Town
Morse RD	Royal River	Morse RD	37 Feet	Town	Town	Town
Penney Bridge	Royal River	Penney RD	77 Feet	Town	State	Town
Tobie	Royal River	Town Way	18 Feet	Town	Town	Town
Upper Gloucester Bridge	Royal River	Town Way	30 Feet	Town	Town	State
MCRR Bridge Underpass	Cobb Road	Maine Central Railroad	30 Feet	Other	Other	Other
Penney RD /MCRR	MCRR	Penney RD	42 Feet	Other	Other	Town
Mayall RD	Maine Tpke	Mayall RD	194 Feet	Other	Other	Town
Bennett	Maine Tpke	Bennett RD	194 Feet	Other	Other	Town
Chandler Mill RD	Maine Tpke	Chandler Mill RD	194 Feet	Other	Other	Town
Shaker RD	Maine Tpke	Shaker RD	204 Feet	Other	Other	Town
Royal River	Royal River	Maine Tpke	65 Feet	Other	Other	Town
Bald Hill RD NB	Bald Hill RD	Maine Tpke North Bound	104 Feet	Other	Other	Other
Foster Brook	Foster Brook	Maine Tpke	18 Feet	Other	Other	Other
Fish Hatchery	Eddy Brook	State-Facility	16 Feet	Other	Other	Other
Bald Hill Road SB	Bald Hill RD	Maine Tpke South Bound	104 Feet	Other	Other	Other
Royal River	Royal River	US 202-100-4	14 Feet	State	State	State
Overhead Bridge	CNRR	SA1	135 Feet	Other	Other	State

Exhibit 19

New Gloucester Accident Counts

Location	date	# of accidents	critical rate factor
RTE 231 and Dougherty Road	1986-1988	9	1.15
RTE 26 and RD. 821	1986-1988	10	1
RTE 26 and RD. 836	1985-1987	9	0.96
1-495N to BR. 0296	1986-1988	18	1.6
1-495N to BR. 0298	1986-1988	22	1.05

MDOT considers a high accident location as one with a critical rate factor of 1 or more, and 8 or more accidents within a three year period.

Roadway Capacity

No roads, either state or local, are experiencing capacity problems. Route 4 has the highest usage, followed by Route 26, Route 122 and Route 231, respectively. Traffic counts (annual averages of daily traffic) for state roads are included in Exhibit 20 on pages 31-33.

Future Planning

One of the key changes that may have a significant impact on New Gloucester is the proposed location of a new exit in the New Gloucester-Gray area off of the Maine Turnpike. Ease of access to a transportation network is a critical component of any commercial development decision; any new access to the turnpike will result in an increase in the interest of commercial developers to locate in the area. Thus, speculative interest in the northwestern sector of town may rise, increasing the potential for development in present business zones.

Private Transportation Facilities and Services

New Gloucester has two railroads that run through its boundaries, Maine Central Railroad and the Royal Canadian National Railroad. Both of these railroads are currently active and provide for 7 crossings in the community. Three of these crossings (two on Route 231 near New Gloucester Station and one on Cobbs Bridge Road) are well marked, at-grade crossings with road painted marks, signs, crossbucks, and lights. Four other crossings are separated grade crossings. Data concerning railroad crossings are included in Exhibit 21 on page 34.

Exhibit 20

New Gloucester Traffic Counts

Route	Location	Length (miles)	Factored ADDT
231	TL to Road 2205	0.08	1147
	Road 2205 to Road 849	0.28	1681
	Road 849 to Morse Road	0.06	2018
	Morse Road to 3272	0.15	2018
	3272 to Road 2207	0.26	1819
	Road 2207 to 3269	0.08	1819
	3269 to .59 BK, Morse RD	0.1	1629
	Morse RD to RD 864	0.32	1437
	RD 864 to Penney RD	0.37	1247
	Penney RD to Dougherty RD	0.28	1315
	Dougherty RD to N. Pownal RD	1.18	1385
	N. Pownal RD to Woodman RD	1.28	1476
	Woodman RD to Lower Gloucester RD	1.07	1452
	Lower Gloucester RD to RD 829	0.1	1941
	RD 829 to Ester RD	0.98	2018
	Ester RD to Back RD	0.9	2140
	Back Rd to 7543	0.02	-----
	TOTAL	7.51	

Exhibit 20 (continued)

122	TL to 122 Empire RD	0.79	2187
	Empire RD to 7675	0.33	----
	TOTAL	1.12	
26	TL to Mayall RD	1.09	4189
	Mayall RD to RD 821	0.25	3792
	RD 821 to Raymond RD	0.77	3730
	Raymond RD to Brackett RD	0.11	3685
	Brackett RD to RD 2994 PW	0.27	3639
	RD 2994 PW to RD 2593 PW	0.34	3593
	RD 2593 PW to 7529	0.67	----
	N. Pownal RD to TL	2.14	191
	TOTAL	5.64	

Exhibit 20 (continued)

4	TL to Morse RD	0.33	6696
	Morse RD to RD 1495	0.16	6613
	RD 1495 to Witham RD	0.45	6513
	Witham RD to RD 829	0.29	4633
	RD 829 to Bennett RD	0.64	5366
	Bennett RD to Church RD	1.42	5612
	Church RD to RD 834	1.38	6880
	RD 834 to 7664	0.18	7033
	7664 to Peacock Hill	0.09	6880
	Peacock Hill to Old RTE 100	0.11	6834
	Old RTE 100 to Hatch RD	0.23	6386
	Hatch RD to 7548	1.32	----
	TOTAL	7.53	

Exhibit 21

Railroad Crossings in New Gloucester

LOCATION	OWNER	MARKINGS	CONDITION
Road 305	MCRR	None	Dirt Road
RTE 231/Penney Rd	RCNRR	None	Separated Grade; Asphalt Road
RTE 231	RCNRR	signs, crossbucks, lights, painted	Asphalt Road
Penney RD	MCRR	None	Separated Grade; Asphalt Road
Cobbs Bridge	RCNRR	signs, crossbucks Lights	Asphalt RD
RTE 231	MCRR	signs, crossbucks lights, painted	Asphalt RD

Public Transportation

Public Transportation in New Gloucester is provided by Regional Transportation Program Inc. This service is scheduled for Thursday of each week on an appointment only basis, and the bus stop is in front of the Town Hall. A volunteer ride service (R.I.N.G.) is sponsored by the Congregational Church.

9. Public Facilities and Services

The Town of New Gloucester provides and/or arranges for several municipal public services, including highways and bridges, street lighting, solid waste disposal, fire and rescue services, recreation, the library, assessing and tax collection, planning, code enforcement, and a variety of social services.

Town policies (including budgets and ordinances), deciding how and at what level services are to be provided, are determined by the Annual Town Meeting. A five member Board of Selectmen oversees the execution of policy by a full time Town Manager. The Town Manager is also the Town Clerk, Treasurer, Tax Collector, Road Commissioner, Welfare Administrator, and Deputy Registrar of Voters. The Manager also supervises the day to day business of the Town which is carried out by the various departments of Town government. Other administrative staff include a full time Code Enforcement Officer, who is also the Plumbing Inspector and Aide to the Planning Board; an Assistant Town Manager and Bookkeeper, a Registrar of Voters, Deputy Town Clerk, and Deputy Tax Collector, a part time Assessor, and an Office Clerk.

The Town is also served by several volunteer, elected and appointed boards and committees. These include the Board of Selectmen, Planning Board, the Zoning Board of Appeals, the Conservation Commission, the Recreation Commission, the Old High School Committee, the Budget Committee, the Comprehensive Planning Committee and others. Many of these groups meet on a regular basis in the Town Office. In addition, the Town

provides educational services through School Administrative District #15, which includes the Towns of Gray and New Gloucester.

Recommendations of the 1986 Comprehensive Plan

In 1986, the Comprehensive Plan noted that a changing and growing population base was, at that time, placing an increasing demand on staff and on the various volunteer boards. Since that plan, the Town has taken numerous actions to implement the policies and strategies presented in 1986. At the same time, New Gloucester, during this period, experienced its greatest amount of growth.

The plan called for increased efficiency in fiscal management of the town. Through the work of the Selectmen and the Town Manager, a series of fiscal policies were put in place to improve cash flow throughout the year:

- Year end operational surplus were divided up with 40% going to offset next year's taxes and 60% being used to build the undesignated fund balance up to one third of the total tax commitment;
- The town voted to go to a new fiscal year and to have two tax payments annually. This is expected to improve short term cash flow, avoiding interest expenses on borrowing
- Budgeting is now done on a gross budget format where all expenditures are approved at Town Meeting;
- 100% of funds are invested to insure maximum return on funds in the bank (interest revenue in 1990 was projected to be $75,000, or 1 mil on the tax rate)

The Town, as part of implementing the 1986 recommendations, has moved cautiously forward in providing permanent staff to meet increasing demands. Included among those additions was a full-time code enforcement officer and the hiring of a part-time assessor (previously, these two jobs were shared by one full time person). Other administrative staff have been added as necessary. To assist in the management of the community, the Board of Selectmen has been expanded from three members to five.

The community has also embarked on the development of a Capital Improvement Program. A CIP committee has been established, background materials have been prepared and initial work is beginning on inventories of Town equipment. See Appendix C for more details on the CIP program. The overall goal of the CIP program is to relate the provision of capital improvements to future land use plans so as to provide predictability regarding where and at what levels community improvements should be provided.

School Administrative District #15

In 1989, the Town of New Gloucester had an enrollment of 526 elementary school and 207 high school students (see Exhibit 22 on the following page). The high school drop out rate was 4.65%, somewhat lower than the 5.18% rate for Cumberland County and somewhat higher than the 3.76% rate for the State. Per pupil expenditures by SAD#15 for 1988-1989 came to $3,180. This figure represents a 123.8% increase in expenditure per pupil since 1980-1981. Enrollment trends and enrollment projections for SAD #15, including Gray and New Gloucester are shown in Exhibits 23 on page 36 and Exhibit 24 on page 37.

SAD #15 leases administrative office space on the first floor of the old high school building from the Town of New Gloucester, which owns the building. There are five elected

members of the School Board, serving staggered 3-year terms. The total 1989 appropriation from New Gloucester for SAD#15, was $860,776.00. That was up some $61,000 dollars from 1988 (an increase of 7.7%). Since 1980, the budget allocated to SAD #15 has increased 130%, or some $483,106. See Exhibits 25-27 on pages 37-40.

Exhibit 22

Education Trends – Cumberland County

Town	% of Adults College Grads	% of Adults H.S. Grads	% of Adults w/ less than H.S.	1989 SCHOOL ENROLLMENT Elementary	High School	Drop-out Rate 1988-89	% Students to Post Sec.Sch. 1989	Per Pupil Expenditure 1988-89
Bridgton	15.6%	40.5%	29.7%	566	248	3.10%	59.7%	$3,650
Cape Elizabeth	37.6%	29.8%	7.3%	1,075	474	0.62%	74.5%	$4.619
Casco	12.5%	41.0%	32.2%	461	154	3.10%	59.7%	$3,650
Cumberland	30.0%	31.8%	13.6%	777	395	0.94%	65.7%	$3,405
Falmouth	27.7%	34.6%	15.3%	776	293	2.04%	77.3%	$4,403
Freeport	18.4%	35.6%	30.0%	828	245	3.96%	48.4%	$3,885
Gorham	20.1%	38.3%	22.8%	1,497	540	3.81%	36.2%	$3,465
Gray	14.0%	42.1%	24.9%	747	904	4.65%	44.8%	$3,180
Harrison	12.8%	38.1%	32.3%	337	118	5.92%	44.5%	$3,177
Naples	10.8%	42.1%	30.4%	368	127	3.10%	59.7%	$3,650
No. Yarmouth	21.3%	36.8%	22.4%	314	143	0.94%	65.7%	$3,405
New Gloucester	13.7%	36.2%	36.0%	526	207	4.65%	44.8%	$3,180
Portland	19.4%	36.7%	27.1%	5,425	2,057	10.77%	55.9%	$4,447
Pownal	17.5%	37.6%	28.2%	196	92	3.96%	48.4%	$3,531
Raymond	20.3%	40.9%	20.4%	423	149	4.65%	44.8%	$3,530
Scarborough	17.9%	43.6%	20.7%	1,412	558	2.52%	64.0%	$3,587
Sebago	14.2%	47.6%	26.5%	137	54	3.10%	59.7%	$3,650
So. Portland	13.4%	42.9%	25.7%	2,300	1,042	6.90%	43.8%	$4,228
Standish	15.3%	41.2%	25.4%	1,096	436	4.63%	50.6%	$3,080
Westbrook	10.7%	42.0%	32.6%	1,848	787	5.25%	61.3%	$4,105
Windham	13.8%	46.4%	23.9%	1,621	687	2.86%	52.5%	$3,786
Yarmouth	30.8%	29.4%	13.3%	955	368	2.82%	68.4%	$4,033

*1980 Census

Public Secondary School Drop-Outs for 1988-89	State Average	Cumberland Co. Average	York Co. Average
	3.76%	5.18%	3.68%
% 1989 Graduates to Post-Secondary Schools	53.56%	56.85%	50.63%

1988-89 Statewide Average Per Pupil Operating Cost is $3,463.

Exhibit 23

SAD 15 ENROLLMENT TRENDS

STUDENTS BY AGE COHORT: GRADE/AGE	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88
K (5)	114	111	119	134	139	141	173	164
1 (6)	113	113	115	121	135	133	135	157
2 (7)	125	107	116	113	105	107	141	130
3 (8)	115	122	108	117	116	118	137	144
4 (9)	133	114	121	109	121	121	108	124
SUB TOTAL	600	567	579	594	616	620	694	719
5 (10)	145	139	122	126	116	119	123	114
6 (11)	133	150	144	132	124	126	132	122
7 (12)	136	139	150	146	139	135	133	133
8 (13)	134	138	151	153	150	149	130	129
9 (14)	169	149	171	161	149	145	140	132
SUB TOTAL	717	715	738	718	678	674	658	630
10 (15)	127	142	137	125	138	128	147	132
11 (16)	129	116	150	109	113	111	139	137
12 (17)	95	117	137	128	100	100	107	134
SUB TOTAL	351	375	424	362	351	339	393	403
TOTAL	1668	1657	1741	1674	1645	1633	1745	1752

Exhibit 24

SAD #15 Enrollment Projections

GRADE (AGE)	1980-1981 ENROLLMENT	1987-1988 ENROLLMENT	1992-1993 ENROLLMENT	1997-1998 ENROLLMENT
K (5)	114	164	180	192
1 (6)	113	157	165	175
2 (7)	125	130	154	164
3 (8)	115	144	157	167
4 (9)	133	124	150	160
SUB TOTAL	600	719	807	858
5 (10)	145	114	138	151
6 (11)	133	122	142	155
7 (12)	136	133	154	168
8 (13)	134	129	150	164
SUB TOTAL	548	498	584	637
9 (14)	169	132	162	176
10 (15)	127	132	138	146
11 (16)	129	137	133	141
12 (17)	95	134	112	119
SUB TOTAL	520	535	545	583
TOTAL	1668	1752	1937	2077

%CHANGE GRADE (AGE)	% CHANGE 80-87	%CHANGE 87-92	%CHANGE 92-97	%CHANGE 87-97
K (5)	43.9%	10.0%	6.7%	16.9%
1 (6)	38.9%	4.9%	6.1%	11.5%
2 (7)	4.0%	18.8%	6.5%	26.3%
3 (8)	25.2%	9.2%	6.4%	16.1%
4 (9)	-6.8%	21.3%	6.7%	28.9%
SUB TOTAL	19.8%	12.3%	6.3%	19.3%
5 (10)	-21.4%	21.2%	9.4%	32.2%
6 (11)	-8.3%	16.4%	9.2%	26.9%
7 (12)	-2.2%	15.7%	9.1%	26.2%
8 (13)	-3.7%	16.3%	9.3%	26.8%
SUB TOTAL	-9.1%	17.3%	9.1%	27.9%
9 (14)	-21.9%	22.4%	8.6%	33.5%
10 (15)	3.9%	4.8%	5.8%	10.9%
11 (16)	6.2%	-2.7%	6.0%	3.0%
12 (17)	41.1%	-16.2%	6.3%	-11.2%
SUB TOTAL	2.9%	2.0%	7.0%	8.9%
TOTAL	5.0%	10.5%	7.3%	18.6%

Exhibit 25

PER PUPIL OPERATING COSTS

	1980-81	1982-83	1984-85	1986-87	1987-88	1988-89	% Increase 1980-1989
Bridgton (SAD #61)	$1,467	$1,795	$2,160	$3,000	$3,328	$3,650	148.8%
Cape Elizabeth	$1,993	$2,449	$2,956	$3,672	$4,008	$4,619	131.8%
Casco (SAD #61)	$1,467	$1,795	$2,160	$3,000	$3,328	$3,650	148.8%
Cumberland (SAD #51)	$1,641	$2,017	$2,437	$2,858	$3,056	$3,405	107.5%
Falmouth	$1,961	$2,300	$2,659	$3,402	$3,838	$4,403	124.5%
Freeport	$1,713	$2,108	$2,612	$3,396	$3,635	$3,885	126.8%
Gorham	$1,344	$1,648	$1,955	$2,613	$2,990	$3,465	157.8%
Gray (SAD #15)	$1,421	$1,775	$2,195	$2,578	$2,890	$3,180	123.8%
Harrison (SAD #17)	$1,357	$1,712	$1,974	$2,382	$2,766	$3,177	134.1%
Naples (SAD #61)	$1,467	$1,795	$2,160	$3,000	$3,328	$3,650	148.8%
New Gloucester (SAD #15)	$1,421	$1,775	$2,195	$2,578	$2,890	$3,180	123.8%
North Yarmouth (SAD #51)	$1,641	$2,017	$2,437	$2,858	$3,056	$3,405	107.5%
Portland	$2,116	$2,372	$2,773	$3,524	$4,009	$4,447	110.2%
Pownal (SAD #62)	$1,368	$1,669	$2,119	$2,564	$2,997	$3,531	158.1%
Raymond	$1,674	$2,024	$2,284	$2,700	$3,133	$3,530	110.9%
Scarborough	$1,579	$1,900	$2,202	$2,938	$3,308	$3,587	127.2%
Sebago (SAD#61)	$1,467	$1,795	$2,160	$3,000	$3,328	$3,650	148.8%
South Portland	$1,757	$2,085	$2,313	$3,205	$3,981	$4,228	140.6%
Standish (SAD #6)	$1,276	$1,556	$1,869	$2,381	$2,666	$3,080	141.4%
Westbrook	$1,888	$2,478	$2,833	$3,327	$3,667	$4,105	117.4%
Windham	$1,495	$1,816	$2,280	$2,828	$3,296	$3,786	153.2%
Yarmouth	$1,954	$2,501	$2,966	$3,359	$3,575	$4,033	106.4%

1988-89 Statewide Average Per Pupil Operating Cost is $3,463.

Source: Maine Department of Educational and Cultural Services

Exhibit 26

PER PUPIL EXPENDITURES 1988-89

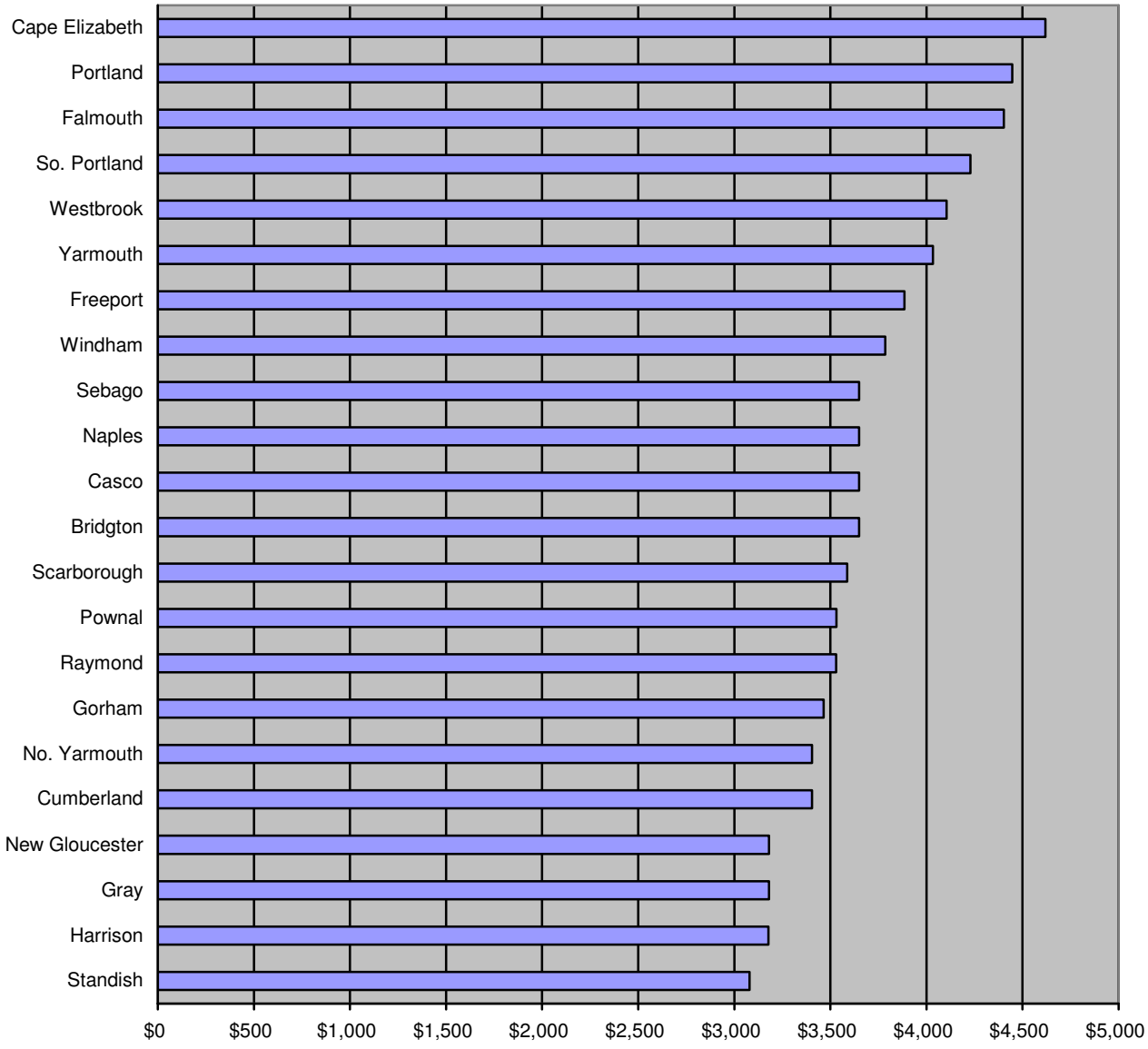
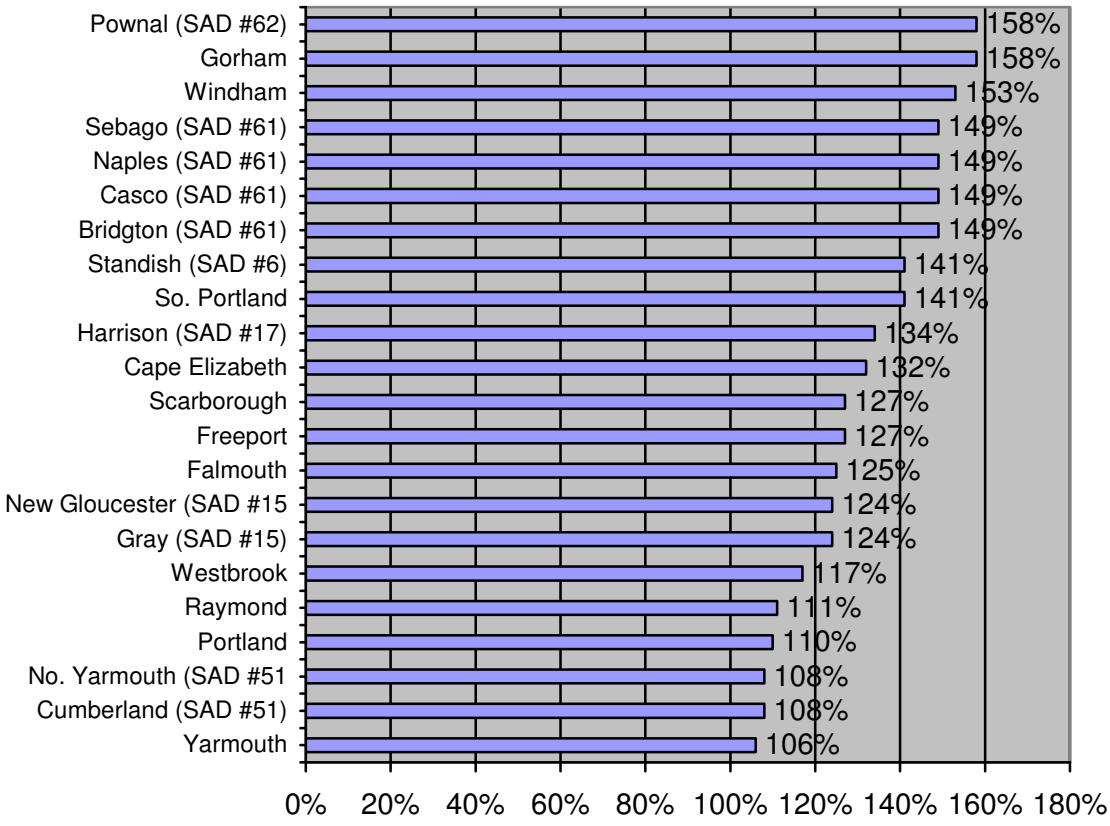


Exhibit 27

INCREASE IN PER PUPIL OPERATING COSTS – 1980-89



Solid Waste Disposal

The Town has operated a solid waste transfer station on Bald Hill Road, west of the Maine Turnpike, since 1977. The Town does not offer or contract for door to door trash pick-up. An estimated 60% of the waste stream is handled through the transfer station. The remaining 40% is removed by private contactors hired directly by individual homes and businesses. In 1990, the Town Meeting passed a new Solid Waste Ordinance which regulates the activities of private trash collectors. The Town is currently in the process of re-licensing the transfer station. The Town Manager expects re-licensing to be completed during 1991.

From the transfer station, waste is hauled to various incinerators or landfills in the region, on a space available basis, under contract with Consolidated Waste Services, Inc. This is a short term interim measure, since the Town is a member of Mid Maine Waste Action Corporation, a non-profit corporation made up of 12 member towns. MMWAC recently floated a $38.5 million bond issue to finance rehabilitation work on the trash incinerator which it owns. Construction will begin in 1990 and the incinerator is expected to be on-line in June 1992. The Town's individual liability under the MMWAC bond issue is approximately $2.7 million, or 7.12% of the total amount to be raised.

A recycling program staffed by volunteers (one of the first in the state to open), has been operating at the transfer station for six years. Cardboard, newspaper and glass are currently being recycled. Approximately 8-10% of the Town's waste stream is being recycled, up from 6% in 1988. Public participation in the program was estimated at 65-75% in 1988. The Town received a capital grant from the Maine Waste Management Agency in 1990 to improve the facility. Effective April 1, 1990, all Town facilities must begin mandatory recycling. The Town will continue to investigate other means of increasing the percentage of the waste stream which is recycled.

New Gloucester will participate in the regional demolition dump to be opened in Gorham in 1991-92 by Region Waste Systems, Inc. This site will receive demolition debris from the Town for the next 20 years.

The Town's old landfill, also on Bald Hill Road, was closed in the 1970's. The site is located on the bank of the Royal River. When it was closed, it was capped and clayed over in a manner not yet approved by the Maine DEP. This landfill needs to undergo closure according to current DEP rules. The Town is currently waiting for DEP to complete the revision of its Closed or Abandoned Municipal Solid Waste Landfills Priority List, which will help determine the availability of state funding assistance, before taking further steps toward closure.

The septage pumped by private haulers from New Gloucester septic tanks is received by the treatment plants of Lewiston and Portland for treatment and spreading.

Fire and Rescue Services

The New Gloucester Fire and Rescue Department is made up of approximately 40 volunteer personnel, and one paid, full time driver available to serve both fire and rescue needs. There are two fire stations, one next to the Town Office and one at the intersection of Route 100 and Peacock Hill Road. The Fire Department, in a 1990 assessment, indicated that another building in the vicinity of Sabbathday Lake would be necessary in the future.

Currently, the fire chief is also the fire chief at the Pineland Center, which has its own internal fire department. The New Gloucester Fire Department has mutual aid agreements with Pineland, Poland and Gray.

The department personnel wear electronic pagers to be notified of emergency calls. In 1989, the fire service responded to 143 calls. In the same year the rescue service responded to 131 calls. At present, personnel coverage is adequate for both fire and rescue calls, but becoming marginal during daytime working hours.

The Rescue Service is a first responder service. When patients require transport to a hospital, they are taken by United Ambulance, with Gray Rescue serving as a backup. To facilitate reporting of emergencies, as well as faster responses to them, the department operates a computerized 911 system.

Police Services

The local police department in New Gloucester was eliminated in 1989 due to programmatic cutbacks. Police services are provided by the State Police and by the Cumberland County Sheriff's Department. The Sheriff's Department services are provided under contract with the Town. The contract is for dispatch services and does not include patrol duties in New Gloucester. The same 911 system servicing the fire and rescue departments is used for police services.

This is an area that has been controversial since the cessation of local service. A special committee studied the issue for a number of months. Permanent staff has been opposed at town meetings, while the public opinion survey suggests that there is still wide support for such a service. The demand for Town police results as much from increased population growth as is does from changes in employment patterns among existing residents that result in vacant homes during the work day.

Roads

As noted in a previous section, the Town manager is also the Road Commissioner. Most of the Road Commissioner's duties, however, are delegated to the Public Works Director, who supervises a department with six staff members. The Department is responsible for all winter and summer road maintenance and reconstruction, including sanding and plowing in winter. Its facilities include the Town Garage, a salt shed, a grader, a loader and four plow trucks. The Town Garage and salt shed are located at the intersection of Route 100 and Peacock Hill Road.

The department hires private contractors for most major road reconstruction. Currently, although no townwide formal system of capital improvements planning exists, the Public Works Department alternates its largest category of expense from year to year between paving and road reconstruction.

Recreation

In general, the Town has made tremendous progress in the last ten years towards providing recreational land and associated programs, considering that recreation services in New Gloucester are overseen by a volunteer commission. The New Gloucester Recreation Commission is composed of seven (7) volunteers who report to the Board of Selectmen. The budget for 1989 was $3500.00. An increase of $1700.00 was requested in the 1990 budget for capital additions, bringing the total to $5000.00.

The Recreation Department has interest in the following facilities:

- New Gloucester Little League (maintained privately by teams).
- New Gloucester Memorial School (in conjunction with school department).
- New Gloucester Open Space Properties
- New Gloucester Recreation Area
- New Gloucester Recreational Facility

These areas provide baseball and softball fields, basketball courts, tennis courts, playgrounds, picnic areas, and skating, and areas for soccer and other field games. The total number of acres available for recreation on Town owned land is 130 acres, 112 acres of which are undeveloped.

New Gloucester funds its recreational programs through the budgetary process and the collection of program fees. Recreation programs include baseball, softball, T-ball, gymnastics, intramural basketball for 2nd, 3rd, and 4th graders, soccer, swimming, volleyball, and ski instruction for children at Lost Valley in Auburn. The total number of participants in the baseball, softball, and T-ball programs was approximately 250 in 1989. The learn to ski program served about 45-50 school children during the same period.

The annual New Gloucester Field Day is held on the last Saturday in July with a traditional pie auction.

The town has been involved in two land acquisition projects in the 1980's. In 1985, recreational land was acquired to create a series of ballfields, tennis courts, basketball courts and picnic areas. Parking for the parcel was also created. Funds for the project were provided by the Town and matched with grants from the state of Maine.

In 1987, a 70 acre parcel was purchased from the Maine Turnpike Authority. This area was intended to be kept natural and could be used for passive recreation and conservation. Plans are still under consideration for future use in this area, with the Selectmen having appointed a committee to research all possible alternatives. Ideas being suggested for this parcel of land include nature trails, jogging/walking trails, and perhaps bike trails.

New Gloucester also has a Snow Mobile club which has access to 32 miles of (privately owned) trails.

In addition, there exits a privately owned facility known as the Sabbathday Lake Beach (Outlet Beach).

Recreation and Park Needs

Exhibit 28 below shows the results of an assessment of the condition of recreational facilities in New Gloucester. The condition of the various facilities has been ranked according to the standards established by the Community Parks and Recreation Program, Office of Comprehensive Planning, "Recreation and Open Space Component of the Municipal Comprehensive Plan."

Exhibit 28

Recreation Facilities Condition Assessment

Facility	**Ranking**
New Gloucester Little League Field	Privately owned
Little League Field Memorial School	D
Baseball Field (Recreation Area)	Grass Lot/backstop
Basketball Court Memorial School	B
Basketball Court (Recreation Area)	B
Tennis Court (Recreation Area)	B
Tennis Court (Recreation Area)	B
Playground Memorial School	B
Playground Memorial School	B
Sabbathday Beach	Privately owned, not available to Public
Pine Land Center Trail System and Tennis Courts	Under development

Key

- A Relatively new facility, lifetime expected in excess of 20 years (with proper maintenance).
- B Facility is a few years older and has been well cared for, lifetime expected to be in excess of 10 years.
- C Older facility that may not be in the best shape and may need minor improvements within 5 years.
- D Old facility that needs considerable maintenance within 2 years and/or significant renovation within 5 years.
- E Very old facility that has outlived its usefulness or is in severe dis-repair. This facility (or equipment) is unsafe or unusable and should be attended to very soon. Replacement may or may not be necessary.

The New Gloucester Recreation Commission has established a set of standards to evaluate present and future recreation needs. The guidelines are based on the Department of Conservation, Bureau of Parks and Recreation's "Municipal Needs Analysis." Some adjustments were made by the Commission according to local conditions. Recreation deficiencies in the Years 1990 and 2000, based on a 1990 population of 4,290 and a projected population of 5,138 for 2000 are shown in Exhibit 29 on the following page.

Exhibit 29

New Gloucester Recreation Deficiencies

Planning Standards	**1990**	**2000**
Softball/Little League Fields* .75 per 1000	2 Fields exist .75 x 4.290 = 3.22 Needs 1 more field	3.9 May need another field
Baseball Fields* .16 per 1000	1 Field .16 x 4.290 = .69 adequate	.82 adequate
Basketball Courts .50 per 1000	2 Courts (Memorial School) .50 x 4.290 = 2.14 exceeding demand	2.6 may need another court
Tennis Courts .67 per 1000	2 Courts .67 x 4.290 = 2.9 Need 1 more court	3.4 Need additional court
Playgrounds* .50 per 1000	2 Playgrounds .50 x 4.290 = 2.15 exceeding demand playground	2.6 expand or new needed
Picnic Areas 2 Tables per 1000	2 Picnic Areas 2 x 4.290 = 8.6 tables	10.3 tables

*Note: Two of these fields are located on private property and could become unavailable for public use at any time. Additionally, the playground facilities located at Memorial School are not particularly well designed (especially for kindergarten children) and are not considered to be of high quality.

Summary of Deficiencies in Recreation and Services

The most notable deficiencies are those specified in Exhibit 29 which pertains to facilities such as ballfields, basketball courts, and picnic areas. However, a deficiency that hasn't been noted is the fact that the Recreation Commission operates without paid administrative staff. It is becoming more difficult to run programs with reliance on volunteers.

Another area of concern is the fact that there has been essentially no long range planning for recreation facilities.

As the demographic section outlined, there is also an increasing concern related to the ability of the community to provide additional activities suited to the elderly population. This is a problem that will need to be addressed in the long range plans for the community.

Finally, the lack of secure, Town-owned or similarly protected (i.e. conservation easements) nature trails, walking/jogging trails, and bike paths has been noted as a critical concern, as at present there is reliance upon private lands.

Two other areas of significant concern were noted during committee discussion and after a review of the public opinion survey. First, there is a real need for a publicly controlled area for swimming. Some noted the desire for a year round facility, since there exists none unless you move into the urban centers. Secondly, it was noted that fishing has long been an important outdoor recreation activity for all age groups. Decline in water quality, along with heavier fishing activity, has depleted available resources in this area.

Finally, there is a need to maintain, repair and upkeep the existing facilities. Keep in mind that as the Town begins to exceed the capacity of the system (for example, soccer fields), then the facility will be more difficult to maintain; the use does not give the facility adequate time to recover or be repaired. This is a critical balancing act for all capital facilities. In conjunction with this effort, improved coordination with the School Department is necessary. School Department participation in maintenance and development is needed.

We would note that growth in recreational activity in New Gloucester has put a tremendous burden on what has been, in the past, an "all volunteer" effort. It would seem that recent work completed in 1990 places the community at a crossroads, where demand may be outpacing the ability of the volunteers to meet the supply of needed facilities. With local public works participation for the most part limited in these efforts, there is a need to take a fresh look at how fields are built and maintained. The addition of staff or an increase in the support of public works may be needed.

Town Property

The real estate holdings of the Town include the facilities discussed in the previous section and several parcels of tax acquired land. Some of the developed facilities are located such that they form a central complex of Town facilities in the Lower Village, consisting of the Town Office, the Public Library, the fire station, and the old high school. Nearby in the Upper Village, the Town Garage, salt shed and upper fire station are located on abutting properties.

The Town also owns several small tax-acquired properties without road frontage alongside the Royal River and the railroad, near their intersection with Stevens Brook. None of these properties contains any improvements.

Refer to Exhibits 30, 31, and 32 on pages 47-49 For physical descriptions of the buildings and equipment owned by the Town of New Gloucester.

Exhibit 30

CONTRACTORS/MOBILE EQUIPMENT LIST

This schedule should list all unlicensed vehicles and tools, equipment, etc. (graders, rollers, compressors, snow plows, tools, etc)

Item	Make & Model #	Description	Value
1.	CLARK 301	GRADER	35,000
2.	CATERPILLAR 936	LOADER	50,000
3.	YORK	ROCK RAKE	2,500
4.		SWEEPER	1,500
5.		MOWER	2,000
6.	VARIOUS	TOOLS	5,000
7.	HOMEMADE	UTILITY TRAILER	
8.	UNKNOWN	TANK TRAILER	
9.	UNKNOWN	TANK TRAILER	
10.	UNKNOWN	GENERATOR TRAILER	
11.	PAK-MOR	BOX-SEMI	
12.	FRUHOUGH	BOX TRAILER	
13.	TRAILMOBILE	BOX TRAILER	
14.	CASE	TRACTOR	20,000
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			

Exhibit 31

VEHICLE SCHEDULE

Item	Year	Make & Model	Serial # Last 5 Numbers	Cost New	Dept. of Use	Location Garaged	GVW (LBS)
1.	52	Studebaker	18REO	?	Fire	RTE 231	5K
2.	61	Ford	00100	25,000	Fire	"	20K
3.	71	Dodge Tractor	02297		Fire	"	38K
4.	82	Ford LTD Sedan	51240	7,500	Fire/Rescue	"	
5.	83	Mack	01129	125,000	Fire	"	20K
6.	87	Ford Van	29926	7,500	Fire/Rescue	"	11,6K
7.	69	Ford Pumper	72447	755,000	Fire	"	
8.	54	Dodge(Weapons Carrier)	61274		Fire	"	
9.	28	Ford Model A	74813		Fire-Parade	"	
10.	46	Chev	15865		Public W	RTE 100	5K
11.	78	Ford	F0455	25,000	Public W	"	22K
12.	80	Ford	J6686	25,000	Public W	"	22K
13.	83	Ford	38180	26,000	Public W	"	24K
14.	87	Ford	66815	50,000	Public W	"	10K
15.	88	Chev	00374	25,000	Public W	"	5K

Exhibit 32

Name Insured:

Property Schedule

Loc. No.	Street Address	Zip	Note 1. Use/Occupancy	Sprklr (Y/N)	Note 2. Const. (1 to 6)	Year Built	# Stories	Sq. Ft.	$ Values at Replacement Cost	
									Building	Contents
1.	TOWN GARAGE/FIRE STA				CEMENT	20 YR OLD	1	5,200	155,000	25,000
2.	TRANSFER STATION				CEMENT	1980	2	836	70,000	10,000
3.	LIBRARY				WOOD	1896	2	1,362	65,000	100,000
4.	TOWN HALL				WOOD	1886	2 ½	3,084	175,000	75,000
5.	FIRE STATION				CEMENT	20 YRS OLD	1	2,160	80,000	15,000
6.	STORAGE SHED				WOOD	30 YRS OLD	1	1,344	10,000	2,000
7.	STORAGE SHED				WOOD	30 YRS OLD	1	500	10,000	2,000
8.	SAND/SALT SHED				METAL/WOOD	2 ½	1		150,000	
9.										
10.										
11.										
12.										
13.										
14.										

1. Put * by any building occupancy that is vacant. (very important)

2. Construction
   - 1 Frame
   - 2 Masonry walls with wood deck roof on wood or steel supports
   - 3 Noncombustible walls with steel deck roof and supports
   - 4 Masonry walls with steel deck roof and supports
   - 5 Modified fire-resistive or protected noncombustible with protected steel deck supports
   - 6 Fire-resistive with concrete roof and supports

10. Fiscal Capacity

By examining issues related to fiscal capacity, we are assessing the economic health of the town of New Gloucester. In Exhibits 33 and 34 on pages 51 and 52, we describe the financial history of the town of New Gloucester over the past 8 years.

Revenues

Sources of revenues for New Gloucester have changed dramatically over the past eight years. Among those changes are:

- Revenues have increased some $1 Million Dollars since 1980, increasing by almost 200%.
- During that period, federal revenue sharing has shrunk as a portion of that revenue source from 21% in 1980 to 0% in 1988.
- Again, during the same period, state revenue has increased its share from 10% in 1980 to only 11% in 1988; the raw increase was by some $111,589.
- During this same period, taking into consideration population growth but not inflation, the revenue raised per capita has increased from $252 in 1980 to $496 in 1988.

If recent patterns are to remain the same into the 1990's, each additional cost absorbed by the community will be required to create additional revenue by the Town. Future financial support by the State or Federal agencies is not expected to increase at any level equal to the need for additional revenue by the Town.

This suggests an increasing reliance on the property tax and town wide valuation. The tax rate, adjusted for full value valuation, has increased from 15.01 mil to 16.22 mil in 1988. That is an increase of 8% since 1980. At the same time, valuation has more than doubled, increasing from a base of $32 million (adjusted full value) in 1980 to a new base of $72 million in 1988. It is appropriate to note that the new valuation assessment of the town in 1990 comes at an appropriate time, as the real and full value tax rate move further apart such that the full value is moving under 70%.

Expenditures

With a recognition, at least in the new term, that the Town will be responsible for producing revenue to cover costs, it is important to understand the makeup of town expenditures over the past 8 years. Some basic trends are:

- Operating costs have increased from under $1 million dollars in 1980 to just under $2 million dollars in 1988 (not adjusted for inflation).
- Total per capita cost has increased from $282 in 1980 to $468 in 1988, an increase of 67%.
- Debt service has increased, although overall debt is only $2.2 million or approximately 3% of total valuation. This is well within the 15% limit permitted by the State. (This does not include the Town's debt liability to Mid Maine Waste Action Corporation of $2.7 million, should that group default)

Exhibit 33

New Gloucester

CAPITAL INVENTORY WORKSHEET

Expenditure Trends

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Operating Costs	$897,565	$964,490	$1,048,352	$1,263,906	$1,211,971	$1,349,795	$1,686,551	$1,747,570	$1,965,234	$2,154,475
Population	3,180	3,307	3,434	3,561	3,688	3,815	3,942	4,068	4,196	4,324
Total Exp. per capita	$282	$292	$305	$355	$329	$354	$428	$430	$468	$498
Capital Expenditures	$43,748			$177,791	$13,030	$16,819	$116,095	$96,794	$17,500	
Debt Limit										
Outstanding Debt	$23,800									
Valuation	$32,754,000	$34,210,390	$42,700,280	$43,277,850	$44,366,800	$58,095,300	$61,914,200	$66,372,700	$72,024,600	$75,468,100
% of assessed val.	0.07%									
Debt Service	$6,690	$33,791	$27,559	$28,656	$27,833	$27,879	$57,536	$24,362	$79,513	$73,046
Administrative Costs	$107,361	$114,799	$67,229	$67,699	$73,487	$90,215	$113,063	$203,182	$206,208	$215,810
Public Safety	$55,376	$53,944	$67,284	$62,322	$59,749	$78,409	$81,749	$85,695	$191,652	$179,629
Public Works	$207,366	$213,185	$253,707	$271,217	$307,411	$342,099	$420,419	$355,896	$537,658	$665,182
Parks/Recreation	$4,391	$4,849	$4,159	$3,829	$5,297	$4,182	$4,769	$4,765	$4,738	$3,500
Utilities										
Education	$377,670	$431,009	$472,891	$488,312	$520,695	$565,319	$640,009	$737,988	$798,852	$860,776
County Tax	$21,945	$25,636						$31,021		$44,967
Other										

Exhibit 34

NEW GLOUCESTER

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
REVENUES										
Property Tax Collection	$508,570	$563,579	$704,555	$744,379	$842,969	$906,287	$1,046,350	$1,068,607	$1,512,516	$1,584,830
Int. Earned-Penalties	$35,713	$43,278								
Excise Tax Collection	$79,028	$85,950			$108,500	$145,000	$173,087	$211,936	$252,147	$278,006
Other Taxes	$6,230	$7,892	$8,966	$10,499		$9,928	$6,853	$11,016		$5,857
GOVERNMENTAL SOURCES										
Education								$21,289		$4,396
Fed. Revenue Sharing	$107,549	$102,207		$50,000	$61,000	$55,736	$62,977	$56,390		
State Revenue Sharing	$53,411	$49,834	$45,000	$45,000	$90,000	$105,000	$135,000	$150,000	$165,000	$200,000
Transportation	$8,432	$6,022			$29,385	$29,343	$44,000	$42,000	$40,000	$58,665
Other		$1,805				$38,904	$22,094	$14,771	$9,042	
LICENSES & PERMITS										
Town Clerk										
Other							$366			
ADMINISTRATIVE										
Interest Earned-General									$25,100	
CHARGES FOR SERVICES										
Gen.Govt & Dev. (Plann. Grant)										$20,328
Public Services										
Public Safety (Flood Relief)										$21,000
Public Works (salt shed reim.)										$44,476
TRUSTS										
RESERVES (fund balance)					$46,000	$17,351			$51,000	
MISCELLANEOUS	$3,701	$9,216			$51,451	$48,163	$122,953	$51,117	$25,000	$8,163
TOTAL REVENUES	$802,634	$869,783	$758,521	$849,878	$1,229,305	$1,355,713	$1,613,680	$1,759,864	$2,079,805	$2,405,536
POPULATION	3,180	3,307	3,434	3,561	3,688	3,815	3,942	4,068	4,196	4,324
TOT .REV.PER CAP.	$252	$263	$221	$239	$333	$355	$409	$433	$496	$556
ASSESSED VAL.	$32,754,000	$34,210,390	$42,700,280	$43,277,850	$44,366,800	$58,095,300	$61,914,200	$66,372,700	$72,024,600	$75,468,100
TAX RATE	$17.00	$18.00	$16.50	$17.20	$19.00	$15.60	$16.90	$18.10	$21.00	$21.00
(TAX RATE AT FULL VALUE)	$15.01	$15.11	$16.22	$15.74	$17.08	$17.15	$17.51	$16.51	$16.22	
PROP.TAX COLL. RAT.										

- In 1989, educational costs made up 42% of total expenditures, however, when costs of education are assessed against the mil rate, school costs make up 61% of the revenue collected in taxes, while only 38% of the revenues go towards general government operations.
- In 1989, the largest general government expenditure was in the area of highways and bridges (public works) representing 23% of total expenditures.
- The most notable change was the increase in costs related to public safety in the latter 80's. This is associated with introduction of personnel, and other increasing costs in the area of public safety, such as provision of dispatch services.

There are several areas which should cause concern for New Gloucester residents are they review the trends in expenditures noted above. First, keep in mind the changes in demographics in Cumberland County and within New Gloucester that suggest that there will be an increasing number of new children entering the schools system in the next 5 years. This increase in school age demand will likely result in an increase in expenditures; expenditures for which, at this time, there appears no matching revenue available, except for that of the property tax.

The second major point is that there is also a changing character in the municipal citizenry. The demographic section pointed to increases in the baby boom age group, as well as in the seniors citizens age category. The survey pointed to a number of areas where citizens are desirous of increased municipal services, including police protection and road improvements. These increasing demands will likely result in further expenditure increases beyond those normally attributable to inflation and basic maintenance.

A third point that needs to be expanded upon is the notion of "residential sprawl" and its impact on the provision of services. As is noted in the inventory section on land use, the majority of land development has occurred in the rural areas. This adds to the cost of municipal expenditures by increasing the amount of roads that must be maintained, expanding the area of coverage by the fire department or, for example, increasing the demand for police coverage in all areas of the community.

A final point is that the increasing residential development associated with commuter travel to urban areas has changed the period of service demand placed on the municipality. As more and more residents commute out of town, the town is asked to provide increasing numbers of office hours in the evenings and weekends to meet this demand. This pattern also applies to volunteer meetings, which increasingly are held only in the evening (as opposed to late afternoon or early morning). Limited times for meetings caused by employment demands will likely continue to cut into volunteer availability, placing more and more responsibility on professional staff and additional pressure to encourage more volunteers to participate in Town government. In essence, New Gloucester is approaching a very critical crossroads.

11. NATURAL RESOURCES

Background

The natural resources of New Gloucester may be thought of as a storehouse of commodities for people to use, or as a complex natural system whose ecological functions serve us in their natural state. In fact, a combination of both concepts is true. Use of natural resources provides us with the essentials for human living, and resource-based industries are an integral part of the local economy. However, excessive use of land and

natural resources will adversely affect the ecological functions they perform, and the scenic and recreational values of the natural resource base as well.

For the long term health of the community, landowners and the town must collectively manage and balance their use and conservation of natural resources. For instance, selective harvesting of the trees yields wood for fuel, manufacturing and construction, but can leave the majority of the woods intact for wildlife habitat, oxygen production, watershed protection and forest regeneration.

In New Gloucester, the natural environment also has value for scenic and recreational uses. It is primarily these values (rather than jobs, location etc.) which are currently attracting more and more newcomers to the town, creating increased demand for new housing and other development, and increasing the need to manage this growth to avoid adverse impacts on the natural environment.

The following inventory and analysis of natural resources can serve as one management tool toward this end. The inventory is a description, in map and written form, of the natural resources of the Town. The maps (on display at the Town Hall) visually display the location and extent of each natural resource and are suitable for community-wide, rather than site specific, planning. The written narrative provides a description and analysis of each natural resource. The features discussed in this section include slope, soils, agricultural soils, groundwater, surface water, wetlands, floodplains, forests, plants, fisheries and wildlife.

Elevation

The physical form of a community has historically had a significant influence on the way roads were laid out, where homes were built, where crops were grown, etc. An indicator of physical form is elevation, measured in feet above sea level.

The New Gloucester Elevation Map was developed by the Androscoggin Valley Council of Governments in 1976 as part of the 701 Planning Program using a USGS topographic map with a contour interval of 20 feet. (Note: A large topographic map of the Town is now available at a ten foot contour interval, but the 1976 maps of elevation and slope were used for this analysis.)

The two most dominant landforms depicted on the map are the rolling hill formations of the northwestern part of the Town and the configuration of the Royal River and its lowlands (known as the Intervale). The River flows through New Gloucester in the form of a large inverted "U" and approximately divides the Town into three areas by its valley. Historically the majority of development has occurred on the highlands embraced by the river. Peacock Hill, Gloucester Hill, Little Hill and Snows Hill are the principal topographic features.

In 1988, when the Town was preparing amendments to its Comprehensive Plan, the committee identified important scenic areas. The Greenbelt Subcommittee of the 1990 Comprehensive Plan Committee further expanded this list. Scenic areas are shown on the development constraints map and include, among others:

- The view from Grandview Farm
- Mount Washington from the Upper Corner
- Lower Village from Cobbs Bridge Road
- Intervale from 231 South
- Intervale from Gloucester Hill

- Mount Washington from the Waterman Farm
- Sabbathday Lake from Route 26

Slope

Slope is the amount of rise or fall in feet for a given horizontal distance. It is a measure of the steepness of the land. The slope of land influences the economic and physical feasibility of various land uses; it is harder to farm steep land than flat land, and it is harder to build on a steep slope than a gentle one. Also, slope can affect the functioning and cost of septic systems and placement of roads and structures. The slope of land generally is a very localized condition. It can change significantly within short distances.

The Town of New Gloucester Slope Map provides generalized information on the slope conditions within the community. The information shown on the map was developed by the Androscoggin Valley Council of Governments as part of the 701 Planning Program using a USGS topographic map with a contour interval of 20 feet. The accuracy of this slope map is suitable for community-wide land use planning, but for development review its use should be supplemented with more site specific data. For comprehensive planning purposes, the map shows four categories of steepness, 0-8%, 9-15%, 16-25%, and greater than 25% in gradations of white/grey/black (with the darker colors indicating steeper slopes).

Much of New Gloucester can be described as having gentle to moderate slopes. There are large expanses of relatively flat areas along the Royal River floodplain, the lowlands in the vicinity of the Woodman Road throughout the Gray – New Gloucester Delta and north of the delta. Flat, gently sloping and moderately sloping areas (0-15%) are usually well suited for development. It should be noted that flat lands are sometimes difficult to drain, requiring extensive stormwater management plans. In addition, flat, lowland areas such as wetlands, floodplains and/or areas of marginal or unsuitable soils impose other development constraints not totally related to slope per se. (Soils, wetlands, and floodplains are all shown on other natural resource maps and discussed elsewhere in the text.)

Moderately steep (> 15%) or very steep slopes (>25%) should be considered potentially problematic in terms of development suitability. There are areas of steep slopes (greater than 25%) in isolated areas of Snow's Hill, Little Hill, Gloucester Hill, Pisgah Hill, Grandview Hill, Bald Hill and along of the west side of Route 26 near the Gray border, along the Royal River, Foster Brook, Eddy Brook, Westcott Brook, Brandy Brook, and Mosquito Brook.

Generally speaking, development, agriculture or silviculture on slopes over 15 percent becomes increasingly problematic as the gradient, or percent slope, increases. Steeper gradients are less suitable for most uses, and more susceptible to adverse environmental impacts than similar sites with gentler slopes. Roads on steep slopes are more costly to construct and maintain. They may be more dangerous to travel on, and less passable by emergency vehicles and/or school buses, particularly in winter. Steep slopes may make buildings and subsurface waste disposal systems more expensive to construct and maintain (the State Plumbing Codes restricts the placement of subsurface systems on steep slopes). Steep areas are generally more susceptible to erosion problems because of increased volume and rate of stormwater runoff, both during and after construction. This means that the land and water bodies downslope of steep areas are more susceptible to sedimentation once erosion has begun. Because sediment contains phosphorus, which, when eroded, is released into solution, sites with steep slopes (which are more erodible) pose a greater threat of phosphorus pollution to streams and lakes than similar sites with gentler slopes.

Although problematic to develop, locations with steep slopes may offer the amenity of excellent views. Ironically, when these locations are developed and cleared to take advantage of the view, they may become an unwanted part of existing and potential views from other vantage points. Areas with steep slopes are often considered desirable from a site layout and architectural vantage point because of the ability to work with the topography in siting homes with daylight basements and other interesting features. Despite the difficulties and increased environmental risks associated with development and timber harvesting on steep slopes, such development is often technically feasible, if more costly. Whether or when to allow such development, and/or how to regulate it will be a subject for the comprehensive planning process to address.

Soils

Soil is a basic resource of major importance to land use activities. It is the underlying material upon which roads, buildings, subsurface waste disposal, recreation, and all other land uses occur. Thus, it is important to understand its properties and limitations.

A soil is described by its physical appearance and properties such as color, texture, structure, and moisture. Soil types can then be rated according to their suitability for different uses.

Soil Development Potential

The Town of New Gloucester Soil Development Potential Map categorizes soils and their level of suitability for low density residential development.

The soils base map utilized is a SCS soils map (1974). The information interpretation was done by the Greater Portland Council of Governments and is based upon the Soil Development Potential rating system developed by the Cumberland County Soil and Water Conservation District (1989). The District has rated the County's soils for septic system installation, development of structures, and road construction, and then given each soil a composite rating, known as its Soil Development Potential. The ratings take into account soil properties such as drainage, depth to bedrock, depth to seasonal high water table and others, and also considers the costs associated with measures needed to overcome soil limitations.

The Map shows five levels of soil development potential – very high, high, moderate, low, and very low development potential. These classes are based on the expected performance of a soil if feasible measures are taken to overcome its limitations, the cost of such measures, and the magnitude of the limitations that remain after measures have been applied.

The Town of New Gloucester Soil Development Potential Map does not eliminate the need for on-site sampling, testing and study of soil conditions. This map shows only a generalized version of what may actually occur at any specific site. Within these areas, pockets of different soils, possibly having substantially different qualities, (and different development potential ratings) may be present.

The Town of New Gloucester Soil Development Potential Map indicates that there are many acres of soils with very low development potential. These soils predominate along the Royal River and in general, tend to follow the path of streams. This condition exists because these soils are typically located within a floodplain where soils are frequently or always saturated. Other soils with very low soil development potential are scattered throughout the Town.

Most of the sand and gravel aquifer area is rated as having medium or very low potential for development. The central, northwest and northeast portions of town contain soils rated as having high development potential. Less than ten acres of soils in New Gloucester are rated as having very high potential for development. These small pockets of soils are located within areas of high development potential.

Other Soils Issues

New Gloucester's soils are a plentiful but often misused resource. Common land-use practices often increase erosion, sedimentation and the loss of valuable topsoil.

New Gloucester's soils show varying degrees of suitability for development. While careful engineering can compensate for site specific problems, the overall carrying capacity of soils should be a major consideration in planning for the cumulative impact and distribution of future land uses.

Another soils-related issue is the contamination of homes by radon, a potentially carcinogenic gas released from soils with a certain chemical composition (in particular, sandy and gravelly soils that allow for the transmittal of gases). New Gloucester has generally been identified as a community that has specific characteristics related to the presence of radon. Radon-susceptible areas, however, can only be identified on a site-by-site basis. Information on this health hazard should be readily available to land and homeowners.

See the section on Agriculture concerning prime farmland soils.

Water Resources

With the proper management of New Gloucester's water resources, plentiful clean water will always be available for domestic, agricultural, commercial, and industrial consumption, as well as for recreational and scenic enjoyment. Without careful short and long range planning, water resources can become polluted.

The purpose of this inventory and analysis is to locate useful supplies, to determine their relationship to land use, and to provide background information for the development of policies to ensure continued availability and high quality of water. This subsection will examine groundwater, surface water, wetlands and floodplains.

Groundwater Resources

The major source of New Gloucester's water supply is groundwater. Groundwater is the result of precipitation that infiltrates into the soil and percolates downward. Depending on underground conditions, available groundwater supplies may be plentiful or scarce in any given location. Because most of New Gloucester's drinking water is drawn from individual groundwater sources (wells), this is a particularly important resource.

Groundwater is found in the cracks and fissures of the underlying granite bedrock (ledge). From wells drilled in bedrock there are usually relatively low yields and sometimes wells must be drilled to depths of several hundred feet to obtain adequate yields for household use. Typically, yields are below 10 gallons per minute (gpm). Occasionally, there are high yield bedrock wells, but these are rare and their locations are unpredictable. Less is known about bedrock deposits due to the lack of mapping of bedrock resources. The Conservation Commission has suggested that a practice be instituted to supply data on well characteristics to the Town Office when a new well is drilled.

In a few locations, however, groundwater is available in higher yields from sand and gravel deposits which lie below the ground surface, but above the bedrock. These deposits, known as aquifers, are highly porous and allow for both storage and release of greater volumes of water through shallower wells that do not need to penetrate bedrock. Sand and gravel aquifers are important resources for large scale community, agricultural, commercial, and industrial water supplies, as well as an economical water source for individual homeowners.

Sand and gravel aquifers have been mapped by the Maine Geological Survey (Williams and Lanctot, 1985). Additional mapping was done by Robert Gerber Inc. in 1987. Data from both of these sources are shown on the Town of New Gloucester Water Resources Map. In New Gloucester, there are two categories of estimated yield: 10-50gpm, and 50+gpm. The portion of the sand and gravel aquifer located within New Gloucester covers approximately 5,600 acres, while the entire recharge area covers approximately 12,750 acres of the northwestern portion of the Town.

Existing groundwater supplies in New Gloucester, whether drawing bedrock or sand and gravel aquifers, are almost all privately owned. Twelve wells are considered public water supplies because of the number of people they serve (schools, restaurants, mobile home park, etc) and are regulated by the Department of Human Services.

Threats to Groundwater Quality

Because sand and gravel aquifers are porous and transmit water rapidly, they are also susceptible to pollution. Once a pollutant enters an aquifer, its movement is governed by the groundwater flow, and it may remain in the aquifer for an indeterminate period of time. The impact of a pollutant on an aquifer depends on the size and characteristics of the aquifer and on the nature and amount of pollution that is introduced. Sources of aquifer pollution are often located on the ground surface directly above or contiguous to the aquifer: septic tank effluent, landfill effluent, leakage from ruptured and/or abandoned fuel tanks, such as those used by gasoline service stations, uncontrolled hazardous materials sites, road salt, sand-salt storage piles, and agricultural fertilizers and pesticides are possible sources of aquifer pollution.

Until recently, the rest of the groundwater system (that found within bedrock) was thought to be lesser prone to impact, but recent studies suggest that it too can be impacted by threats to groundwater in all locations. The Town of New Gloucester Threats to Groundwater Map shows the locations of some of these potential threats, including septic system locations, the location of all known petroleum storage tanks, the municipal transfer station, the former municipal dump and the Town's sand/salt pile.

Maine's Water Quality Classification System requires that all of the State's groundwater be of such quality that it can be used for public water supplies. The numerical standards used to assess potability are those of the Federal Safe Drinking Water Act. Any groundwater in Maine which is not suitable for public water supply due to pollution from human activities is not meeting its classification.

The DEP's "State of Maine Nonpoint Source Pollution Assessment Report" for 1989 lists five areas in New Gloucester overlying groundwater that are not attaining water quality standards due to non point source pollution. According to the DEP, there have been two leaking underground storage tanks, two uncovered sand and salt piles and one solid waste landfill in New Gloucester. The filled area of the solid waste landfill (old town dump) on Bald Hill Rd/ is 10 acres. The two leaking underground storage tanks in the Upper Village are together responsible for polluting 2 private wells and threatening 5 others (as of 1989). The former sand and salt pile was first used in 1935 and threatened another 11 wells. In addition, the construction and operation of the Maine Turnpike through the central area of the aquifer risks salt contamination and potential spills. The transfer station and the new salt shed are also located in the aquifer.

Gerber's 1987 study stated that 7 out of 10 wells sampled in the sand and gravel aquifer were affected by septic system effluent and stated that the nitrate-N concentrations found were "quite high considering that…evaluation…indicated that few water quality problems should exist in the aquifer. Relatively high concentrations of sodium and chloride in two wells indicated that road salt contamination may be a problem. The study suggested that water quality degradation could reflect site specific problems and not be an indicator of overall water quality in the aquifer. Gerber recommended more wide spread sampling.

The New Gloucester Conservation Commission carried out a water quality the DEP monitoring program in the aquifer and recharge area (funded in 1988 by 205j program). Additional sampling has been carried out in areas of more dense development, particularly in the Upper and Lower Villages. The results of those investigations have been put into a computerized data base and the Town hopes to include the sample results and their geographic locations in a Geographic Information System. The Water Resources Committee utilized those results and constructed a water quality map based on the testing of wells throughout the community. The conclusions of that study noted a problem in several pockets in the community where higher nitrate levels have been documented. The most critical area has been the Upper Village area, where readings were of grater concern because of other recent findings that there is also impact from leaking gasoline tanks, as well as the salt shed (Garret, 1990). Those findings suggest that there may in fact be the need for some sort of municipal water supply in that area.

The location of the sand and gravel aquifer within both New Gloucester and neighboring towns makes this resource both available for use by, and vulnerable to, sources of pollution in any or all of the towns sharing it. No one town, therefore, can fully protect this shared resource by itself. The Town of Gray has an aquifer overlay zone that protects its portion of the sand and gravel aquifer, but more interlocal cooperation may be

required. New Gloucester and Gray should work cooperatively with the Towns of Raymond and Poland to develop uniform standards.

In addition to existing conditions which may pose a threat to groundwater resource quality, the town should also consider the land use patterns which are expected to occur in the future. There has been frequent talk in the past about siting a potential public water supply well to be developed if needed in the future, and either purchasing land or the development rights to land around it or stringently regulating land use in the zone of influence. If growth and development is anticipated to occur in a way which would create or compound threats to groundwater resources, policy decisions should be made to address these issues.

Threats to Groundwater Quantity

The productivity of an aquifer can be limited by covering the ground surface above it with impervious area. Extensive paving and building coverage can prevent water from quickly entering the ground and replenishing the groundwater supply. Removal of overlying sands and gravels eliminates filtering capacity and exposes the water table to direct pollution and may result in increased evaporation.

Because New Gloucester's aquifer is located in areas which are primarily flat or gently sloping and within areas with soils suitable for septic systems, the area may be easily excavated and easily developed and may be in demand for many uses. Extensive development of gravel pits in the aquifer area already has increased the vulnerability of this water source. The town's planning process should carefully assess the availability of the aquifer in terms of present and future demands for water. The potential lasting values of aquifers should not be jeopardized by excessive exploitation of their value as development sites. The New Gloucester Aquifer Protection Overlay District (which applies to the aquifer and its recharge area), limits the amount of impervious surface that may be covered and also has performance standards relating to extraction of sand and gravel within aquifers. The rules of the overlay district limit the density and the nature of permitted uses, prohibiting uses which are incompatible with the long term water quality of the aquifer. A hydrogeologic study is also required of new development projects within the aquifer area. Water supplies located in bedrock aquifers are not offered protection under these regulations and their importance must not be overlooked.

When the issue of providing a public water supply is studied further, the Town will have to investigate its relationship with the Yarmouth Water District. When the District was chartered in 1927, it was assigned water rights to groundwater in New Gloucester for future supply reserves. However, the District's charter does not grant the District the right to sell or distribute water in New Gloucester. The implication is that the town would have to consult with the District before establishing a public water supply or before setting up a district. The Yarmouth Water District has offered technical assistance to the Town of New Gloucester concerning the Upper Village contamination.

Surface Water Resources

Surface water resources include lakes, ponds, streams, rivers and wetlands. To year round and seasonal residents, and visitors to New Gloucester, these resources offer recreational, aesthetic, economic and ecological benefits. For some, the lake also serves as a household water supply.

The Town's surface waters and the drainage basins of the lakes and ponds are indicated on the Town of New Gloucester Water Resources Map. Note that in some cases the land and water bodies within New Gloucester are only part of each drainage basin shown, and that some basins are shared with neighboring towns.

New Gloucester has the surface area (or a portion of the surface area) of three Great Ponds (natural ponds of over ten acres in size) in its jurisdiction: Sabbathday Lake, Lily Pond and Shaker Bog. The boundaries of the watersheds of Crystal Lake, Upper Range Pond, Notched Pond and Runaround Pond also include land area in New Gloucester.

Sabbathday Lake is located in the Southwestern portion of the Town bounded by Route 26 to the west and south, Shaker Road to the north and Snows Hill road to the east. The surface area of Sabbathday Lake lies wholly within the Town and is 335 acres in size. The lake watershed on the other hand is approximately 2,571 in size and includes land area in the Towns of Poland and Raymond. Mosquito Brook, Westcott Brook, and the outlet stream from Shaker Bog all drain into Sabbathday Lake.

The lake shoreline is primarily developed with seasonal and year round homes, with the expection of several large, undeveloped parcels. The lake supports recreational uses in the warmer months, including fishing, boating and swimming and in the winter, snowmobiling, cross skiing and ice fishing. Public access to the Lake is limited and a concern of both town and state agencies. Sabbathday Lake forms the headwater for the Royal River.

Lily Pond is a smaller pond, bounded by the Maine Turnpike to the east, Shaker Road to the north and east and Chandler Mill Road to the South. Its shores are currently undeveloped and in 1989, the Town made an unsuccessful attempt to nominate the area for purchase by the Land for Maine's Future bond. Lily Pond Brook is the only stream that drains this land area. Access has thus far been across private property and may cause a problem in the future.

Although the actual waterbodies are located in neighboring towns, portions of the drainage basins of Crystal Lake, Runaround Pond, Notched Pond and Upper Range Pond are located within the Town of New Gloucester. The town should work cooperatively with the Towns of Gray, Auburn, Durham, Pownal, Poland and Raymond to protect these ponds. Notched Pond is of particular importance as it is on DEP's list of endangered ponds and its outlet drains into Sabbathday Lake.

The Royal River originates at Sabbathday Lake and flows east, eventually emptying into Casco Bay in the Town of Yarmouth. Almost all the land area within the Town of New Gloucester drains into the Royal River and all the smaller sub-basins discussed in the previous paragraphs are part of the Royal's basin (the exception being a small amount of land that drains the Range Pond system in Poland). Water quality on the mainstem of the Royal River is good throughout and achieves Class B at six monitoring stations. There is one point source discharging to the Royal at Pineland Center. According to monitoring of the discharge, Pineland has, at times, exceeded the limits of its discharge license. Protection of the Royal River resource is a management issue for the Towns of New

Gloucester, Gray, Pownal, North Yarmouth and Yarmouth and the City of Auburn which comprise the basin.

The area adjacent to the Royal supports an extensive network of floodplains and wetlands. As the water resources map suggests, the area is critical both for waterfowl and fisheries and also has a number of deer yards that abut it throughout its run through the town. The Royal River is considered a critical resource by all adjacent towns and will be the focus of a regional planning effort (Royal River 205j Planning Grant by the Greater Portland Council of Governments).

Threats to Lakes and Streams

All streams in New Gloucester are rated Class B. Class B waters are of such quality that they are suitable for drinking water after treatment, for fishing, for recreation in and out of the water, navigation, unimpaired habitat for fish and other aquatic life, industrial processes and cooling supply. Currently, Foster, Brandy, Runnaround, and Collyer Brooks are not attaining water quality standards due to bacteria levels. Water quality in these streams ultimately affects the quality of the Royal River and Casco Bay. Reduction of non-point sources of pollution is needed to reduce bacteria levels.

Development within lake watersheds and the use of the lakes themselves pose several kinds of threats to stream and lake water quality. The threats to groundwater listed above are also threats to stream and lake water quality in that lakes and streams are fed partially by groundwater flow. Beyond this however, there are several kinds of land use and development which can have an adverse impact on both streams and lakes. Erosion and sedimentation from agriculture, timber harvesting, existing and new roads, ditches, building sites and driveways can add to both the sediment loading and phosphorus loading of lake waters. Failing, poorly designed and/or maintained septic systems can add unacceptable nitrate and other nutrient loads, plus bacterial and/or viral contaminants to surface waters. Pesticides and fertilizers in stormwater runoff can pose a hazard to lake water quality. Point sources of pollution, also pose a variety of hazards to surface waters. Gas and oil, and human waste discharges from boats on lakes can also pollute lake waters. Heavy power boat use and/or poor regulation of water levels in lakes can erode shorelines and beaches.

By far the most potentially serious impact on lake water quality is the gradual increase in phosphorus loading due to additional development in lake watersheds. Before most other cumulative impacts show a major effect on water quality, increments of phosphorus can reach a level exceeding the ability of lake ecosystems to assimilate them. If this is allowed to happen, algae blooms will result, causing changes in water temperature, reducing the water's ability to hold oxygen, and, if the loading is extreme enough, possible releasing phosphorus which is chemically bound to bottom sediments, leading to permanent changes in lake water clarity, loss of cold water fisheries and other ecologically and economically adverse effects.

To help prevent the loss of other lakes to this problem, the Maine Department of Environmental Protection's Lakes Division has developed a method for estimating the vulnerability of lakes to phosphorus pollution and for controlling phosphorus export from new developments within lake watersheds. The phosphorus control standard used is unique to each lake watershed and is expressed as the amount of phosphorus which can be exported from each new development per acre per year. This standard is called the Per Acre Phosphorus Allocation. The DEP currently requires the developments which are large enough to fall within its jurisdiction to comply with this standard.

Developments and other land use activities which do not require permits from the DEP are not currently required to conform to either a state or a local per acre phosphorus allocation standard. This means that smaller subdivisions and site plans, timber harvesting, road reconstruction and other activities which can export phosphorus, continue to contribute unknown quantities of phosphorus to all lake watersheds in New Gloucester.

The DEP has monitored water quality in most of the lakes and ponds in New Gloucester. The monitoring results and negotiations with individual developers haven been used to determine the Per Acre Phosphorus Allocations for each lake and pond where DEP has had to review proposed developments in lake watersheds.

Because the phosphorus control methods involves policy decisions concerning the level of protection for each lake and the future area to be developed over the next 50 years within each watershed, the DEP has left it to the individual towns to make these decisions. This means that until the town selects its own level of protection for a given lake, the town has little or no say in the level of protection it will receive, even from larger developments subject to DEP review.

For statistical data characterizing each lake and its vulnerability to phosphorus pollution, see Appendix D.

At the request of Comprehensive Planning Committee, phosphorus loading calculations were done for the Sabbathday Lake watershed. Building on the information supplied by DEP for the watershed (see Appendix D for a discussion of definitions) the following information was entered into the model:

- The direct drainage area in the Town is 2,594 acres.
- Water quality is rated as moderate/stable.
- The phosphorus coefficient is 30.58.
- A high level of protection was chosen for the watershed due to use of the lake as a household water supply for some shoreline homeowners, and the presence of a cold water fishery rated as a high quality habitat.
- Unbuildable land in the watershed equals about 41 acres (mapped wetlands).
- The acceptable increase in lake phosphorus concentration was 1 ppb (part per billion)
- There are approximately 1,985 acres available for development in the watershed.
- It was estimated that about 25% of the watershed (about 496 acres) would be developed over a 50 year planning period. This takes into account the location of Sabbathday Lake near the major growth areas of Portland and Auburn, but also accounts for land ownership patterns and past levels of subdivision activity in the area.

The per acre phosphorus allocation, using the above figures, was .06 pounds per acre per year. In other words, 06 lbs/ac/yr is the maximum amount of phosphorus that can be exported from each acre of land in future developments.

The committee looked at several scenarios of subdivision layouts to determine the relevance of the .06 figure. A hypothetical development of 7 lots of 19.95 acres with good soils on 5-10% slopes, that proposed 370 ft. of new road and improvement of 670 ft. of existing substandard road, will export about .167 lbs of phosphorus per acre per year; and therefore would not meet the standard. By adding phosphorus controls (a clearing limitation of 10,000 square ft. on each lot, wooded buffer strips throughout the subdivision, and by constructing a wet pond), the per acre phosphorus contribution was reduced to .031

1bs/acre/year, which is within the .06 standard calculated for the Sabbathday Lake watershed.

If this method is recommended as an implementation strategy to be applied to lake watersheds in New Gloucester, the above figures and assumptions should be reviewed again.

Wetlands

Wetlands are vital natural resources which have both ecological and economic importance. They provide a unique habitat, spawning and nesting areas for a broad spectrum of plants, animals and fish, including waterfowl, shellfish, fish, insects, reptiles, amphibians, and many mammals. Wetlands serve as water purifiers for groundwater recharge and discharge, and help protect surface water quality downstream. Wetlands reduce flood hazards by absorbing rapid runoff like a sponge and then releasing it slowly to surface waters and in some cases, groundwater. They reduce erosion and sedimentation in both stream channels and lake margins. And, in some cases they have scenic, historic and/or archaeological value.

At least 56 wetlands exist in New Gloucester, including swamps, marshes, bogs, and the streams and numerous rivulets and springs that feed them. The most prominent are part of the wetland system is that associated with the Royal River. Other wetlands in New Gloucester are associated with streams which feed each of the lakes. These wetlands are shown on the Town of New Gloucester Water Resources Map. The wetlands information on this map was developed by the Greater Portland Council of Governments using information from the Maine Department of Inland Fisheries and Wildlife.

"Wetlands" refers to the group of soils that are commonly found in a waterlogged condition. Some of these soils are ponded or have standing water on them for most of the year. Wetland soils typically include soils that are poorly or very poorly drained, as defined by the Soil Conservation Service (SCS). In a wetland the water table is typically at or near the ground surface for enough time every year to produce wetland vegetation.

The sensitive ecological balance of a wetland can be easily disrupted by many human activities. Historically, wetlands have often been filled, drained, and/or excavated to expand the amount of developable land on a parcel in which they were located. Or their functions, listed above, have been severely impaired through clearing, paving or other development on adjacent land, causing reduced wildlife habitat, loss of groundwater recharge area, loss of scenic value, increased flood hazard, and other adverse impacts.

To protect wetland values, the State of Maine regulates the use of wetlands over 10 acres in size. The Town of New Gloucester currently regulates the use of wetlands of more than ½ acre in size by restricting the amount of disturbance and filling that may occur, by restricting allowable uses in wetland areas and by requiring undisturbed buffer areas around wetland areas.

Floodplains

Many of New Gloucester's shoreline areas on streams, wetlands and on the Royal River are susceptible to flooding, especially during spring rains when the frozen ground and/or remaining snow can produce excessive amounts of runoff. The Town of New Gloucester Water Resources Map, shows the areas that lie within the 100-year floodplain. The 100-year floodplain is defined as the area that would be inundated by the flood from a storm of such intensity and duration that it has a 1 percent chance of occurring in any given year.

Statistically, this same storm will occur, on average, once every 100 years. The floodplain information shown on this map is based on National Flood Insurance Rate maps done by the Federal Emergency Management Agency.

The most extensive floodplain area in New Gloucester is that associated with the Royal River and its system of wetlands. Floodplains associated with rivers are often especially good cropland due to the nutrient enrichment the floodplain soils receive from periodic inundation in sediment-laiden flood waters and due to the absence of rocks in the cultivated layer of soil.

Other 100 year floodplains occur on Foster Brook, Brandy Brook, Meadow Brook, Runaround Brook and its tributaries, and an unnamed tributary of the Chandler River.

Construction in these areas is restricted by local ordinances and Federal flood insurance regulations. Under the National Flood Insurance Program, the federal government provides flood insurance to property owners within a community's 100-year floodplain at reduced rates, provided that the community adopts a floodplain ordinance which meets federal standards for building construction and floodproofing. The Town of New Gloucester has historically participated in the National Flood Insurance Program and adopted a new floodplain management ordinance in 1988.

Agriculture

The Agricultural Resources Subcommittee of the Comprehensive Planning Committee conducted a survey in the spring of 1990 to determine the number of active farms in the area and to identify the types of products available. The survey showed that the 39 landowners who responded controlled 6,036 acres of land. Of this total however, 2,202 acres is actively farmed. Sixty-four surveys were originally distributed and the results may need to be revised again if there is a final follow-up on the unanswered surveys. The best estimate of the total amount of acreage that was farmed 10 years ago is 1,408 acres. It was not noted whether this land had reverted back to forest use, or was sold for development, or merely taken out of production, so no accurate percentage of farmland conversion could be calculated. Products offered for sale include: hay, honey, pumpkins, beans, asparagus, freezer lambs, freezer beef, chickens, turkeys, pigs, hens, sheep, sheepskins, spinning fleeces, wool, apples, beefalo, beef sides, livestock, and horses. The assessment confirms that the majority of active farmland is used for the production of hay. A smaller amount of land is used for pasture for livestock and pleasure horses. Additionally, various garden vegetables are grown for home use. Twelve landowners would like to participate in a brochure advertising New Gloucester farm products.

The Town of New Gloucester Farmland Soils Map shows the extent of prime agricultural soils and additional soils of statewide importance, as rated by the Cumberland County Soil Conversation Service. This map was prepared by the Androscoggin Valley Council of Governments in 1982. Prime Farmland produces the highest yields and requires minimal amounts of energy and economic resources, and farming it results in the least damage to the environment. It has the soil quality, growing season, and moisture supply needed to produce a sustained yield of crops while using acceptable methods.

In New Gloucester, the largest contiguous area of prime agricultural soils is located on the Shaker property and the surrounding area. There are also several areas of prime agricultural soils east of the Royal River on gently sloping uplands and in the floodplain of the river itself. It should be noted that much land in New Gloucester where soils are not rated as "prime" agricultural soils is still important for pasture and hay.

Agricultural lands are important for both their current and potential use as farmland. Historically, farmland was more extensively used to meet local food supply needs. There has been a gradual decline in local agriculture as more productive midwestern soils were brought under cultivation and surplus crops were imported to the New England States. Increasingly, as farmlands were abandoned, the land reverted to forest.

Until recently, the option of returning this land to agricultural use again, should it become necessary or desirable, (due, for instance, to high energy costs, or dramatic or gradual shifts in global food production and consumption patterns) has always been available. More recently, however, large scale development has begun to permanently convert some agricultural soils to non-agricultural uses, increasingly restricting this option.

Generally, because the soil characteristics of agricultural soils are the best for both agriculture and development, and because agriculture is an increasingly risky and marginal business, there is a strong incentive to both farmers and developers, through the sale and subdivision of land, to remove farmland irrevocably from agricultural use.

In addition, today's farms are an important component in what gives the local landscape rural character. Existing fields and pastures offer a different visual amenity from forests and lakes, or from development. They also sometimes improve visual access to scenic vistas which might otherwise be blocked from view by trees. As such, agricultural landscapes may have a significant indirect value to the town in addition to that of agriculture itself.

Some of New Gloucester's forested prime agricultural soils are now shielded somewhat from this trend due to their tax status under the Tree Growth Law, and, to a lesser extent, some of the remaining actively farmed agricultural soils are similarly shielded by their tax status under the Farm and Open Space Law. But the remaining land not so classified is under greater development pressure.

In 1984, there were 13 parcels, totaling 339 acres in Farm and Open Space Taxation, valued at $33,950. In 1988, there were 304 acres in 10 parcels, with a local assessed value of $30,450. It is obvious that the farm and open space law is grossly underutilized in New Gloucester due to lack of financial incentives for participation in the program.

There are a variety of regulatory and non-regulatory options for protecting prime agricultural and additional soils of statewide importance. The Town of New Gloucester will need to decide in its comprehensive planning process whether, and, to what degree, it wishes to exercise these options to protect these soils.

Forest Resources

About 60% of New Gloucester's land area is forested. The Forestry Resources subcommittee interpreted aerial photographs of the Town and prepared a map showing hardwoods, softwoods, mixed wooded areas and open areas. The forest provides habitats for plants and animals and serves important environmental functions such as protecting soils, filtering water and supplying oxygen. Forest land also has scenic and recreational value.

Forests also are sources of employment. The harvesting of timber for production of lumber, pulpwood, firewood and other wood products has long been a component of New Gloucester's local economy. Forestry activity makes a significant contribution to the economy of New Gloucester today, both by employing residents and by the purchase of goods and services from businesses in town. As a renewable natural resource, woodlands

that are properly managed will continue to provide jobs. At present, there are 17 forestry related employers in New Gloucester as follows:

- Maschino and Sons Lumber
- Hotham and Sons Lumber
- Bill Taylor, woods operation and firewood
- Occasional biomass chipping operations
- Two woods trucking firms
- Five carpenters (including builders, furniture makers and cabinet makers)
- North Anson Reel
- S. D. Warren – specialty paper
- International Paper- tissue paper products
- Wilner Wood Products- wood flour, saw oak, wood fiber
- Homestead Lumber Company – building materials sales

In 1984, there were 9,761 acres of forest land in New Gloucester taxed under the Maine Tree Growth Tax Law, contained in 180 parcels. To qualify for the tree growth law, land must be used primarily for the growth of trees and forest products. The timber value was assessed by the Town to be $526,051. There were 1,751 acres of softwoods, 3,089 acres of hardwoods and 4,921 acres of mixed growth forest. In tax year 1984, one parcel of 5 acres was withdrawn from tree growth taxation. By 1988, the total acreage of commercial forest land so taxed had decreased to 9,610 acres, in 178 parcels, with the timber resource assessed at a total of $765,245. In 1988, there were 1,816 acres of softwoods, 3,104 acres of hardwoods and 4,690 acres of mixed growth forest. In tax year 1988, there were no withdrawals from the program.

Unconfirmed data shows that there are four registered tree farms in New Gloucester totalling 2,455 acres and two "uncertified" tree farms containing 300 acres.

Timber harvesting is sometimes done improperly or in a wet season, resulting in erosion and sedimentation, phosphorus pollution of streams and lakes, and unsightly rutted logging roads. Logging in certain areas, or the cumulative impacts of many logging operations, can radically reduce the ability of land to absorb runoff. On a widespread basis this can lead to more marked changes in the water level of streams and rivers during storms and dry periods.

New Gloucester's forests require careful management to ensure they remain environmental and economic assets. The town currently has timber harvesting standards that apply to its shoreland areas. In the earlier 1980's and again in 1989, a comprehensive timber harvesting ordinances were presented to the voters and were rejected at Town meeting.

Access to forests and open space areas also is a growing issue, as are the complaints of forest landowners about unauthorized and improper use of their land by ATV users and others. With more private land being posted, hunters, hikers and nature enthusiasts will find access increasingly limited. The Town may wish to plan now to reserve land for recreational and other uses before particular valuable tracts are bought up or real estate prices become prohibitive.

Plants, Fisheries and Wildlife

Plants, fisheries and wildlife add significantly to the beauty of New Gloucester. Fisheries and wildlife are important economic and recreational assets. They attract seasonal visitors who like to hunt and fish and/or observe wildlife, and their presence serves those who own

property and/or live in New Gloucester year round. This amenity enhances both the enjoyment of life and local property values.

New Gloucester's forests and fields are the home of many large and small game and non-game species of mammals and birds.

Information on plants, fisheries and wildlife has been derived from a variety of sources. The Maine Department of Inland Fisheries and Wildlife has researched and documented wetland locations and has rated their value as wildlife habitat. This information is shown on the Water Resources map prepared by GPCOG. Inland Fish and Wildlife has also identified and rated deer wintering areas, which are depicted on the Natural Resource Map prepared by GPCOG. Inland Fish and Wildlife ratings for fisheries habitat are shown on the Natural Resource Map. Critical Areas information obtained from the Natural Heritage Data Base is also mapped on the Natural Resource Map.

Sabbathday Lake and the Royal River are rated by the Maine Department of Inland Fish and Wildlife as containing high value fisheries. Lily Pond, Brandy Brook, Eddy Brook, Stevens Brook, Wescott Brook, Mosquito Brook, Foster Brook and several unnamed tributaries are considered to have moderate value fisheries. Meadow Brook is of indeterminate value as a fishery.

Five wetlands in New Gloucester were rated as having high value for wildlife habitat. They are located on the Poland town line (part of the Shaker Bog system), adjacent to the Royal River near Sabbathday Lake Road, adjacent to Lily Pond, adjacent to an unnamed tributary to the Royal River near Weymouth Road, and adjacent to Sabbathday Lake near Snow Hill Road. Approximately 17 of the remaining wetland areas were rated as having moderate habitat value. The balance of about 34 wetlands were rated as having low habitat value for wildlife. Wetlands were discussed in detail in an earlier subsection.

At the time of the 1989 survey by the Maine Department of Inland Fisheries and Wildlife, there were nine deer yards located in New Gloucester. They are all of unknown habitat value. They are located on the east side of Wescott Brook, along Eddy Brook, to the east of Route 231 west of Cobb's Bridge Road, at the headwaters of Bear Brook, along Runaround Brook, on the east side of Dougherty Road, in the vicinity of Weymouth and Penny Roads, and the largest area along Foster Brook on either side of the Maine Turnpike.

Another aspect of natural features in the town is the presence of rare or endangered plant or animal species, and unique natural communities. No detailed survey has yet been done for the Town as a whole. However, The Maine Natural Heritage Database, maintained by the Office of Comprehensive Planning, lists two plant species (neither of which are mapped due to lack of recent sitings), and two Registered Critical Areas on their inventory of rare and endangered natural features.

Castanea Dentata or the American Chestnut was last sited in New Gloucester in 1908. This species is of "special concern" in Maine because there have been five to 10 documented, recent occurrences and the species could be classified as "threatened" in the foreseeable future.

Cypripedium Arietinum or Ram's Head Lady's Slipper was sited in New Gloucester in 1935. This species is "threatened" in Maine, that is, there have been only two to four documented, recent occurrences. This species was formerly listed on the Federal threatened list, but is now known to be more abundant than was previously believed.

There are two registered critical areas in New Gloucester. Approximate locations of both are shown on the New Gloucester Natural Resource Map. Locations mapped may not pinpoint exact boundaries of the feature due to the sensitive nature of the resource.

The Southern New England Basin Swamp is a registered critical area that is significant because of its stand of old growth tupelo. This plant species is considered rare to imperiled in the State of Maine. The second critical area with New Gloucester is a "glacial array", known as the Gray-New Gloucester Delta. The delta covers approximately 1,067 acres in Gray and New Gloucester. Emergent glaciomarine deltas of coastal and central Maine are unique in the United States. They were formed 12 – 13,000 years ago at the margin of the receding ice sheet. Twenty six probable glaciomarine deltas have been identified in Maine. The Gray-New Gloucester delta is one of three where detailed information is available. The resource is significant because: (1) it is exceptionally well-formed and contains excellent examples of glacio-deltaic features such as (a) wave cut cliffs caused by sea level drop, (b) drainage channels from glacial meltwater, (c) kettleholes caused by sand/gravel deposits around melting ice, (d) proximal edge-representing the limit of the ice sheet at the time the delta was formed and (e) active springs, (2) it provides key evidence for interpreting the geological history of glacier marginal positions and sea-ice relationships during the final retreat of the continental ice-sheet, and (3) it is easily accessible and frequently visited by scientists and students from universities throughout the country.

Open Space and Greenbelt

New Gloucester's residents have enjoyed virtually unlimited access to trails on private property for hiking, horseback riding, cross country skiing and snowmobiling. This availability is threatened as land is lost to development or closed to public access through posting. The "centerpiece" of the trail system is the abandoned Interurban railway right of way. Portions of the property that are not owned by Central Maine Power have been purchased from CMP by the abutting land owners. A subcommittee of the Comprehensive Plan Committee has mapped all existing trails and has planned ways of connecting them to important land such as stream corridors and wildlife habitats into a continuous greenbelt. The trails map is located at the Town Hall. Further recommendations of the subcommittee are contained in the goals and strategies section of this plan.

13. Historic and Cultural Resources

New Gloucester's Lower Village, in addition to being protected by the Historic Resource Overlay mechanism in the local zoning ordinance, has been listed on the National Register of Historic Places since 1974. The significance of the District lies in the fact that it was one of the few well-settled inland towns in Maine during the last half of the 18th century. The District has an abundance of late 18th and early 19th century buildings in their original, natural setting. The National Register listing carries no regulatory authority. However, projects that receive federal funding must evaluate their impact on any Natural Register properties.

The Shaker Village on Route 26 is a National Historic Landmark District. This designation, which is somewhat more significant than a nomination to the National Register, may offer those buildings greater regulatory protection and may qualify them for certain federal funding programs.

The Universalist Church, one of the oldest in the State, was nominated to the National Register in 1988. Its significance is discussed in the section of this plan of Town History. Also of importance are several buildings in the Upper Village.

In addition to the previously recognized historic areas described above, residents were aware that there were other locations of significant buildings scattered throughout the town, as well as concentrations of well maintained period structures such as in the Foggs Corner area.

With the goal of doing a comprehensive survey, Committee members and members of the New Gloucester Historical Society conducted an inventory of historic structures throughout the Town. The locations of all structures of over fifty years of age were placed on a parcel base map. There are 199 homes in this age category, and approximately one half of those structures are over one hundred years of age. The committee also made notations on the map concerning architectural style and historic significance of certain properties (i.e. who lived there and who built or designed the structure). Additional structures that may be eligible for nomination to the National Historic Register were also noted. The committee's effort is ongoing in that they are currently in the process of photographing and compiling information about each structure.

14. Land Use Patterns and Change

"The use of land in New Gloucester is a product of changing regional influences. At the turn of the century, New Gloucester was primarily an agricultural community. Regional developments, the advent of the automobile and changing demand for agricultural products has seen the town transform into a suburb of Lewiston-Auburn and Portland".

The above text was taken from the 1986 Comprehensive Plan. The general patterns described in that plan have not changed; however, the magnitude of development in the areas of influence has intensified, primarily in the residential development area.

In Exhibit 35 on the following page, the changes in land use between 1986 and 1990 are depicted by zoning category. The table shows the approximate amount of developed and undeveloped land in each zoning category for two years, 1986 and 1990. The numbers were derived by measuring the acreage in each district, documenting the amount of land area that was "developed" (i.e. each building was allocated its own parcel according to the requirements of the zoning district), and documenting the remaining vacant land. Figures for both developed land and vacant land are slightly overestimated due to crude methods of measurement, but are satisfactory for this level of analysis.

The exercise, which shows where the greatest amount of land use activity is occurring, highlights some interesting points related to changes in land use since the preparation of the last comprehensive plan in 1986. The analysis points out that policies and regulations have steered new land development in perhaps a different direction than what is ultimately desirable. Keep in mind that the current zoning ordinance may not be responsible for the direction new growth has taken because it was only recently adopted (March 1989). The analysis shows that:

- The entire town, over the four year period, increased in developed land by 376 acres, increasing total developed land to 10% of the total amount of land in New Gloucester.

- 207 acres, or 55% of the total change occurred in the rural residential zone (2 acre zoning); 120 acres or 32% occurred in the Farm and Forest Zone (5 acre minimum zoning); 21 acres or 6% occurred in the Resource Protection Zone. The remaining development during this period, constituting only 7% of the change in developed land, occurred in areas designed to encourage growth (Village and Business, in particular).
- While the Business Zone showed development of 22 acres during this period, it should be pointed out that only 2 of those acres were for business purposes, while the remaining 20 acres were for residential purposes, as permitted in that zone.
- No change occurred in acreage development in the Village zone.

Exhibit 35
Land Use Change in New Gloucester 1986-1990

Zone	Total Acres	Developed Area By Year: Acres(%)		Undeveloped Area Acres (%)	
		1990	1986	1990	1986
LAKE (2 ACRE MINIMUM)	414	276(67%)	270(65%)	138(33%)	144(35%)
VILLAGE (1 ACRE MINIMUM)	136	88(65%)	88(65%)	48(35%)	48(35%)
BUSINESS (1 ACRE COMM,2 ACRE RES)	1275	356(28%)	334(26%)	919(72%)	941(74%)
RESOURCE PROT. (5 ACRE MINIMUM)	3528	316(9%)	295(8%)	3212(91%)	3233(92%)
FARM & FOREST (5 ACRE MINIMUM)	11747	1010(9%)	890(8%)	10737(91%)	10857(92%)
RURAL RES. (2 ACRE MINIMUM)	15767	1351(9%)	1144(7%)	14416(92%)	14623(93%)
TOTAL FOR TOWN	32,867	3397(10%)	3021(9%)	29470(90%)	29846(91%)

Notes:

1. Both land developed and land undeveloped are probably overestimated. The Town contains 48.6 sq. miles or 31,104 acres, therefore acreage measured by grid is between 1700-1800 acres off.
2. No assessment of undevelopable land was done.
3. Numbers may not add up due to rounding adjustments.
4. Background information available from GPCOG

A major objective of the previous Town Plan and subsequent land use ordinances was to limit development in the Farm and Forest zone. This was done solely by implementing the 5 acre lot size. To a limited extent, it has been successful, because more development occurred in the Rural Residential zone, where a two acre lot size is required than in the Farm and Forest area. Looking at the Town as a whole however, the analysis shows that during the period from 1986 and 1990 the primary areas of residential development were in the Rural Residential and the Farm and Forest Districts (55% and 32% of all development, respectively). Almost 48% of the land area of the Town is zoned for 2 acre lots, a technique which does very little to direct growth, and in fact, arguably contributes to the current pattern of residential sprawl.

There remains little development in the area of industry or commercial land use since 1986. Industry continues to be limited to saw mills, planning mills, gravel crushing operations and some light manufacturing. Commercial development remains restricted to gasoline and automobile repair services, mom and pop grocery stores, restaurants, a hardware and machinery store, a garden seed store, the CMP switching station and other smaller enterprises. We should note that Shaker Village has now developed a fairly substantial business that includes both a mail order operation and the sale of goods on the premises. In this sense, they have also become a fairly popular tourist attraction. Future development patterns will depend on the town's present strategy to encourage development on Route 100 toward Auburn, (Auburn plans to expand industrial uses, including sewer extensions, in that general direction) and on the final location of the ramp from the Maine Turnpike.

Existing land use as of the fall of 1990 is shown on Figure 1 on the following page.

15. Planning Initiatives Since the 1986 Comprehensive Plan

In March of 1987 the Town's most recent Comprehensive Plan was enacted by the Town Meeting. The plan was short on inventory, but included a comprehensive "laundry list" of activities for the Town to pursue. In March of 1987, the Town Meeting failed to pass a series of ordinances put before it, including a building code and amendments to the zoning ordinance designed to strengthen aquifer protection standards. Reacting to extreme growth pressures, the voters did enact at that time an ordinance limiting the annual number of building permits that could be issued, a limitation on the number of lots that any subdivision could contain, and a limit on the number of subdivision lots the Planning Board could approve in a year. Those provisions remained on the books for two years. After that Town Meeting, a general planning committee worked with a consultant planner from the Council of Governments to rethink the Towns goals and policies related to land use and to develop a land use plan element to further drive subsequent land use ordinances. The land use plan and map were adopted in March of 1988. The Town immediately began work on a rewrite of the zoning ordinance which contained very progressive standards including strengthened aquifer protection standards, design review standards for historic districts, a new business zone, a mixed use village zone and numerous state of the art performance standards. The ordinance was adopted in March of 1989. At about the same time, the Planning Board rewrote the subdivision regulations, considerably strengthening them by creating new submission requirements, better procedures, and technical standards for stormwater management and road construction (among other items).

Following the same progression in improvements to the Town's regulatory structure, the Town Planning Board has become more professional in its undertakings and more skilled at reviewing technical plans. The Board has had part time assistance from the Council of Governments for the past two years.