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Town of Bremen Maine Comprehensive Plan 2004

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Draft August, 2004

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FORWARD

In 1972, the Selectmen of Bremen published the first Comprehensive Plan for Bremen, and in 1988 the Planning Board according to the requirements of Title 30 M.S.R.A. Section 4962 rewrote the Plan. It is unclear whether the Plan was approved by the State and/or adopted by the Town.

Shortly after Bremen's Plan was written, the State revised the Comprehensive Planning and Land Use Regulation Act, which required towns to prepare comprehensive plans consistent with the Act. In 1999 the State made grants available to towns to assist with such endeavors, and in late 1999 the Selectmen of Bremen filed an application for a Comprehensive Planning Grant and were successful in having the Town vote to appropriate matching funds. The Grant was approved, and the Selectmen appointed a committee to undertake the writing of a new comprehensive plan for Bremen. The Committee originally consisted of nine (9) members representing the elected boards in town and several citizen representatives. Those original members were: Eugene Boothby (Selectmen), Parker Renelt (School Board), Steve Barnes (Shellfish Committee), Phyllis Baldwin (Town House Committee), Barnum Burrall (citizen) Jack Morris (Planning Board), Dale Witham (Harbor Committee), Janice Miller (citizen), Katie Varian (Planning Board). The first meeting was held February 22, 2000. Janice Miller was elected Chairperson. Early in the process the Committee retained the services of Esther Lacognata, a land use-planning consultant to assist with the project. During the process several members resigned and were replaced. The new appointees were Christine Berg (citizen), David Hall (citizen), David Harrington (Fire Department), Michele Prior (citizen), Tonie Simmons (citizen & business owner), Lee McCabe (citizen & Fire Department), Gerould Clark (citizen), and Blair Pyne (citizen & business owner). Several sub-committees were established to assist with the gathering of data and many additional citizens of Bremen were involved. Among them were Roland Eckman, William Thomas, Joe Webber, Dick Baldwin, Mary Hall, James Boutlier, Doug Tigert, Renholt Berg, Sue Renelt, Carol Burrall and Linda Nevins. In addition the members of the Planning Board and our Board of Selectmen participated in the process.

In late 2002, a draft Comprehensive Plan was submitted to the State Planning Office (SPO) for review and approval. In March 2003 Bremen received the comments from the SPO, which basically noted inconsistencies with the Act. A meeting was scheduled with a representative of the SPO to discuss their findings, and after much discussion the SPO stated that Bremen did not qualify for an exemption to the requirement of designating a "Growth Area" in Bremen, and that Bremen's Growth Cap Ordinance was not consistent with State Law. The Committee has addressed most of the minor inconsistencies noted by the SPO and has re-written the Natural Resource section with the assistance of Betty and Tom Wilson, Bremen residents, who are professional geologists, in an effort to obtain an exemption from designating a "growth" area in Bremen. The remaining inconsistency is Bremen's Growth Cap Ordinance, which the SPO maintains is not supported in accordance with the Comprehensive Planning and

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Land Use Act.

There are some risks or considerations to not having a Plan deemed consistent with the Act. Basically, Bremen will not have the same standing when applying for some State grants that other towns might have, and there is some question as to the validity of future land use regulations not being based upon a Comprehensive Plan consistent with the Act.

The Bremen Comprehensive Planning Committee thanks all of the officials and citizens of Bremen who assisted in any way with this process and hope that this Plan, once approved by the voters of Bremen, will be a living document that guides development in Bremen for the next decade.

Respectfully submitted,

Barnum Burrall, Co-Chairman

F. Parker Renelt, Co-Chairman

1.0 THE COMMUNITY

The Town of Bremen, after its separation from Bristol, became incorporated on February 19, 1828. The population fluctuated for the next forty years with it being 770 in 1830, 837 in 1840, 819 in 1850, 908 in 1860 and 797 in 1870.

It is easy to understand why the early settlers were attracted to the region, as there was an abundance of birds, animals, fish and plenty of timber. The game was used both as a food source and for trade, the timber for building and trade. Beaver, otter, deer, bear, wolves and moose were found here in great numbers.

Along the coast, cod and haddock were caught and eaten, salted and kept for winter or sent to other areas in the country or abroad. Easily caught in the rivers in spring, were salmon, shad and alewives, which again were used as food or trade.

It is estimated that in the 1600's England sent 100 fishing ships to the North Atlantic coast, annually. All told, in different branches of the business, they employed no less than 10,000 men and boys.

Today, Bremen is still a small coastal town with its population of full time residents, numbering less than 800. The main industry is still centered on the water, with lobster and clams being the main catch. In addition to fishing, there are small businesses which employ three or fewer people. Some examples are home based, carpentry, construction, and crafts. Today, Bremen has very few industries that employ more than three people. Among them are Hocomock Bottling Company, Maine Cat boat building and sales, and Muscungus Bay Aquaculture, Inc.

The towns of Damariscotta and Waldoboro, are 8-10 miles away and are the nearest areas to go for groceries and essential services. Brunswick, Portland, Rockland, and Camden, are 45 minutes to 1-1/2 hours away.

Bremen's greatest assets are its beauty and its citizens, who are unique in their openness and individuality. Coastal salt water coves and islands abound and fresh water ponds and lakes are available for either fishing or recreation. Many newer residents have come to Bremen to escape the mainstream of large towns and cities and to live a simpler, quieter life surrounded by the large tracts of forested land, salt and fresh water, and most important, the people and their way of life. Natives, as well as newer residents, share a strong desire to keep the rural character of Bremen.

1.1 Local Government and Community

It has often been said, in Bremen people don't retire, they volunteer! Bremen is blessed with a population that believes in doing for others, giving back and trying to make the quality of life in Bremen better for all. For such a small community,

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volunteering is alive and well. Members of the Board of Selectmen, Fire Department and First Responders are compensated for their efforts. School Board, Planning Board, Board of Appeals, Harbor Commission, Shellfish Committee, Cemetery Committee, are staffed by volunteers. There are many other non-profit organizations which provide a wide range of services and programs.

The Bremen Library, a private non-profit organization run by a volunteer board of trustees, provides traditional library services such as books, videos and magazines for both adults and children and is connected to the Internet through the University of Maine. There are summer reading programs for children and programs presented throughout the year on travel, gardening and other topics. In addition, the library has a meeting room for other community activities, and it maintains reciprocal arrangements with other libraries in the region.

Bremen Historical Society, which has 53 members, works very hard to preserve the history of Bremen through lectures and displays of photographs and artifacts. They also hold workshops to sort, catalogue, and file various historical objects, papers photographs.

The Patriotic Club had its origins in 1912 when 12 women volunteered and raised funds to erect a Civil War monument in town. Today, the club provides scholarships to all Bremen high school graduate desiring to further their education. The Patriotic Club annually hosts a Meet the Candidates event before the local election, and annually sponsors a Town Clean Up Day. Since 2001, with funding from the Bremen Day Committee, the Club has prepared and distributed "Welcome to Bremen" packets for new residents in town.

The Town House Committee is focused on repairing and maintaining the Town House, the oldest public building in Bremen. It was built in 1874 and served as the town office, a library, and a school during its life. The committee has been successful in having the building placed on the National Register of Historical Places.

The Muscongus Community Club is a group of volunteers from the Muscongus area of Bremen who raise funds through various suppers, craft sales to support scholarship and other worthwhile causes.

The Neighborhood Watch group concerns itself with the safety and well being of the residents of Bremen. They sponsored a program in conjunction with the First Responders where residents have cards posted on their refrigerator doors displaying medication they are taking so in case of an emergency the EMT's could easily obtain this vital information.

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The Hockomock Horticultural Society is Bremen's Garden Club. This group organizes garden tours, sponsors various programs on gardening, maintains flower boxes at the Town House, and supports the Library's annual wreath and plant sale.

The only church in town is the Bremen Union Church. The congregation holds various fundraisers during the year in the form of dinners, arts and craft shows, and rummage sales.

In the fall, the Patriotic Club holds the annual Bremen Country fair in the Town House. This event is the main fundraiser for the club. Other organizations that participate keep the funds they raise for themselves. It is scheduled to coincide with Columbus Day weekend to attract many seasonal residents.

In addition, the Town holds an annual Christmas tree lighting ceremony with singing by the church choir, refreshments, and gifts given to all children. Santa even arrives by fire truck. There are several suppers held at the firehouse, which attract many of the residents of Bremen. The library holds its plant sale in the spring and its wreath sale before Christmas. Both events attract people and orders from the whole region.

On a municipal level, Bremen still retains the Town Meeting form of government. Town meetings are very well attended and citizen participation is spirited and at times entertaining.

So as the above describes, Bremen is a small town with an abundance of residents who give of themselves for the betterment of the community as a whole.

2.0 POPULATION CHARACTERISTICS

2.1 Introduction

The purpose of this section is to describe characteristics of the population of Bremen. As with all similar planning studies, our principal source of information for these descriptions is the decennial U.S. census. Initial statistics from the 2000 census have just become available, and we base as much of this section as possible on these new data. However, detailed Census 2000 data on population characteristics have, at this point, not been released, so for this type of information we draw on data and extrapolations of 1990 census data provided by Maine's Department of Human Services.

From as early as 1860, Bremen began a long period of population decline. Lumbering and shipbuilding waned as steel replaced wood in the production of large vessels. Brick-making and harvesting of ice for shipment all but disappeared by the end of the 19th century. The processing of fish oil dwindled. Farming decreased due to overworked soils. Young people moved away to pursue opportunities elsewhere. The Town's economic decline continued into the first decades of the 20th century. Population decreased to 550 in 1910, 423 in 1920 and reached its all-time low of 322 in 1930. In part this phenomenon reflected continued long-term pressure of declining 19th century industries. But new technological changes also weakened parts of the local economy. The internal combustion engine ended the working sailboat, and development of fiberglass and other new materials placed heavy pressure on wooden boat building. Automobiles and road improvements enabled residents to shop in Waldoboro and Damariscotta, and Bremen's local grocery stores and general stores eventually closed. Only two local grocery stores survived by 1950, Osier's in Medomak and Hilton's in Broad Cove.

After 1930, population growth resumed slowly with new forces at work. Summer visitors had appeared in Bremen before the turn of the century, staying in the several hotels in Medomak and on Hog and Bremen Long Islands. Before World War I, summer visitors began buying property. Both these trends became much stronger after World War II. It was not until 1970 that local population at 454 exceeded the 1920 level of 423.

Bremen's growth since 1970 has occurred primarily because of in-migration of people "from away" -- from out of town and out of state.

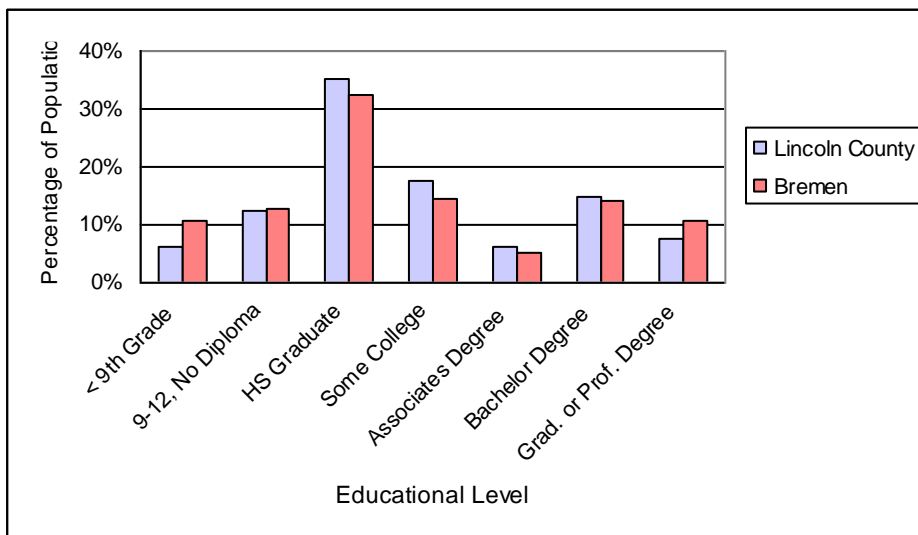
2.2 Current Population

The 1990 census showed Bremen to have a population of 674 people. As indicated in Figure 2-1, education levels in this population were somewhat lower than those of people living elsewhere in Lincoln County. Compared to Lincoln County as a whole, Bremen had a slightly higher percentage of residents with less than a 9th grade education and lower percentages of residents with high school diplomas and with some college work.

Bremen's median household income in 1990 was lower than that of Lincoln County --

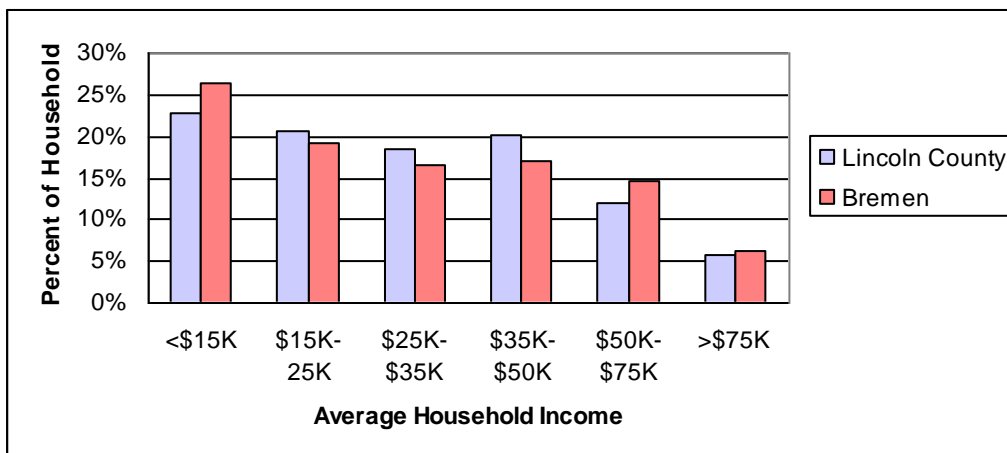
\$26,447 versus Lincoln County's \$28,373. Figure 2-2 shows that, compared to the rest of the County, a higher percentage of Bremen households had very low incomes – less than \$15,000 – but, interestingly, Bremen also had a higher percentage of households with relatively high (greater than \$50,000) annual incomes. (According to estimates from the Maine Department of Education, this difference virtually disappeared by 1998, when median household incomes in Bremen and Lincoln County were \$31,250 and \$31,952, respectively. We do not know how much confidence to place in these estimates, however.)

Figure 2-1: Education Levels, Bremen vs. Lincoln County, 1990*



*Source: 1990 Census

Figure 2-2: Distribution of Household Income, Bremen vs. Lincoln County, 1990*

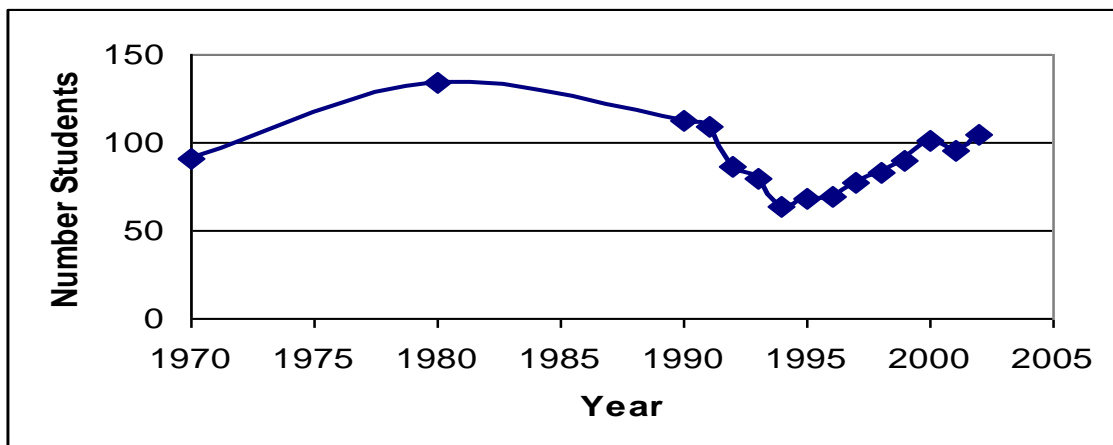


*Source: 1990 Census

Until Census 2000 data became available, it was believed that Bremen, as well as Lincoln County as a whole, experienced a population decline during the 1990s. The Maine Department of Human Services (MDHS) was estimating that Bremen's total year-round population had dropped to 647 by 1998, down 4.0% from 674 in 1990. At 32.1%, the rate of decline in the 0-14 year-old age group was believed to be especially large. These estimates appeared to be supported by data from the Maine Department of Education and the Bremen School Board, which indicated that indeed the number of school-age residents of Bremen did drop sharply during the first part of the 1990s decade, from 112 students in 1990 to 64 in 1994. Although Bremen's school population – based on actual count of students in school – had climbed back to 83 by 1998, this was still 26% below the 1990 figure.

However, as shown in Figure 2-3, Bremen's school-age population continued to increase during 1999 and 2000, and by the end of the decade it had rebounded to 101 students, almost reaching the 1990 level of 112.

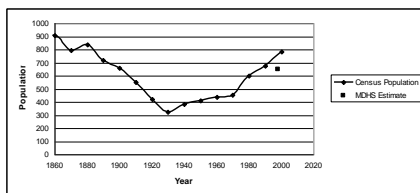
Figure 2-3: Public School Students in Bremen, 1970 – 2002*



*Source: Maine Department of Education (1970-1993) and Bremen School Board (1994-2000).

When Census 2000 data were released in 2001, the data showed Bremen's full-year population to be 782 instead of 647 as estimated by MDHS. In Figure 2-4, we display census-based population counts for Bremen for every year since 1860, including the new 2000 datum. The curve shows that during the 1990s decade Bremen continued the pattern of population growth experienced almost without interruption since 1930. It is clear that the Census 2000 figure is much more consistent with past patterns than is the MDHS estimate, shown by the square on the chart.

Figure 2-4: Bremen Total Population By Year, 1860 To 2000.*

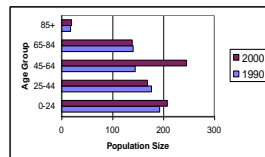


* Source: U.S. Census, Maine Department of Human Services, and Local Data as described in the text.

Instead of experiencing a sharp decline in its under-15 year-old population during the 1990s, Bremen saw its population in this age group actually increase by 7.1%. But population growth in the adult age groups was even more dramatic. For several years, "local knowledge" had been suggesting that a substantial portion of the recent population change in Bremen was attributable to retirees moving into the Town. Just-released age-specific population counts for 2000 indicate that this assumption is partially valid, but only partially. Figure 2-5 shows that Bremen's population remained relatively unchanged over the past decade in all but one age category. In 1990, Bremen's population included 370 persons under age 45 and 159 who were aged 65 and over. In 2000, the under-45 population was 377 and the over-65 count remained at 159. However, in the 45-64 age group, Bremen's population increased from 145 to 276, a 70% increase for this age group during the decade. Clearly, Bremen's population in 2000 is older than it was in 1990 because of this in-migration. While 2000 census data on education and income levels have not yet been released, it seems reasonable to

assume that Bremen's new residents are somewhat better educated and have somewhat higher household incomes than 1990 averages for the Town.

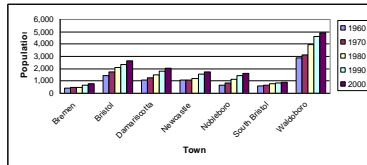
Figure 2-5: Age Distribution Of Bremen Population, 1990 And 2000*



*Source: U.S. Bureau of the Census

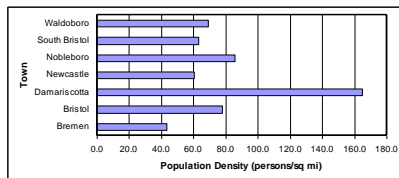
Census 2000 data also show that the entire Pemaquid region grew at a substantial rate during the prior decade. As can be seen in Figure 2-6, every neighboring town's population increased over the past four decades. The town with highest growth rate during the 1990s, at 16.0%, was Bremen. Growth rates for other towns ranged from 13.8% in Bristol down to 6.8% in Waldoboro. For Lincoln County as a whole, population increased by 10.7% between 1990 and 2000. Bremen's relatively high growth rate is attributable partially to its small initial population. In terms of absolute number of new residents, only South Bristol had fewer than Bremen during the 1990s decade. But the *rate* of change is very important too, and by this measure Bremen is the fastest growing town in this part of the Mid-Coast.

Figure 2-6: Total Population by Year, Bremen and Neighboring Towns



While we cannot comment definitively on our population's education or income because Census 2000 data have not yet been released, we can make one statement with confidence. Figure 2-7 shows that according to the new data, even with its very high growth rate during the past decade, Bremen enjoys the lowest population density, 43.2 people per square mile, of any town in this area of Maine. Bremen continues to be one of the nicest places to live on Maine's coast.

Figure 2-7: 2000 Census Population Density, Bremen and Nearby Towns*



* Source: U.S. Bureau of the Census.

2.3 Population Growth

Given the new census total for the Town and the past population counts presented in Table 5, we observe that Bremen has grown continuously since 1930. Over the past three decades, the population has increased by 32% (1970s), 13% (1980s) and 16% (1990s). On a per-annum basis, the number of Bremen residents increased by 10.9 per year during the 1990s, a rate essentially equal to the rate (10.8 per year) for the 30-year period 1970 to 1990. If we assume that Bremen's population continues to increase at this same rate during the 2000-2010 decade, the Town will be home to about 110 new people by 2010, and its population will almost equal its all-time high of 908 in 1860.

2.4 Appendix

Table 2-1: Education Levels Of Residents, Bremen Vs. Lincoln County, 1990 Census

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| Education Level | Lincoln County | Bremen |
|--------------------------|---------------------------|---------------|
| < 9 th Grade | 6.1% | 10.6% |
| 9-12, No Diploma | 12.5% | 12.8% |
| HS Graduate | 35.2% | 32.3% |
| Some College | 17.7% | 14.5% |
| Associates Degree | 6.2% | 5.2% |
| Bachelor Degree | 14.7% | 14.1% |
| Grad. or Prof. Degree | 7.5% | 10.6% |

Table 2-2: Household Income Distribution, Bremen Vs. Lincoln County, 1990 Census

| Household Income | Lincoln County | | Bremen | |
|------------------|----------------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| <\$15K | 2,720 | 23% | 67 | 26% |
| \$15K-25K | 2,464 | 21% | 49 | 19% |
| \$25K-\$35K | 2,194 | 18% | 42 | 17% |
| \$35K-\$50K | 2,399 | 20% | 43 | 17% |
| \$50K-\$75K | 1,432 | 12% | 37 | 15% |
| >\$75K | 680 | 6% | 16 | 6% |
| All | 11,889 | 100% | 254 | 100% |

Table 2-3: Number of Public School Students, Bremen, 1970 – 2002

| Year | Students |
|------|----------|
| 1970 | 91 |
| 1980 | 134 |
| 1990 | 112 |
| 1991 | 109 |
| 1992 | 86 |
| 1993 | 79 |
| 1994 | 64 |
| 1995 | 68 |
| 1996 | 69 |
| 1997 | 77 |
| 1998 | 83 |
| 1999 | 90 |
| 2000 | 101 |
| 2001 | 95 |
| 2002 | 104 |

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Table 2- 4: Bremen Population by Census Count, 1860 – 2000

| Year | Census Population | Year | Census Population |
|------|----------------------|------|----------------------|
| 1850 | 819 | 1930 | 322 |
| 1860 | 908 | 1940 | 383 |
| 1870 | 797 | 1950 | 409 |
| 1880 | 839 | 1960 | 438 |
| 1890 | 719 | 1970 | 454 |
| 1900 | 657 | 1980 | 598 |
| 1910 | 550 | 1990 | 674 |
| 1920 | 423 | 2000 | 782 |

**Table 2-5: Census-Defined Populations, Bremen and
Neighboring Towns, 1960 to 2000**

| Town | Census-Defined Population | | | | | 1990-2000 Growth Rate |
|----------------|---------------------------|-------|-------|--------|--------|--------------------------|
| | 1960 | 1970 | 1980 | 1990 | 2000 | |
| Bremen | 438 | 454 | 498 | 674 | 782 | 16.0% |
| Bristol | 1,441 | 1,721 | 2,095 | 2,326 | 2,644 | 13.7% |
| Damariscotta | 1,093 | 1,264 | 1,493 | 1,811 | 2,041 | 12.7% |
| Newcastle | 1,101 | 1,076 | 1,227 | 1,538 | 1,748 | 13.7% |
| Nobleboro | 679 | 850 | 1,154 | 1,455 | 1,626 | 11.8% |
| South Bristol | 610 | 664 | 800 | 825 | 897 | 8.7% |
| Waldoboro | 2,882 | 3,146 | 3,985 | 4,601 | 4,916 | 6.8% |
| Lincoln County | | | | 30,367 | 33,616 | 10.7% |

**Table 2-6: Bremen Population By Age Group,
1990 And 2000**

| Age | Year | |
|-------|------|------|
| | 1990 | 2000 |
| 0-24 | 193 | 208 |
| 25-44 | 177 | 169 |
| 45-64 | 145 | 246 |
| 65-84 | 141 | 139 |
| 85+ | 18 | 20 |
| Total | 674 | 782 |

**Table 2-7: Population Density by 2000 Census,
Bremen and Nearby Towns**

| Town | 2000 Population | Land Area (sq. mi.) | Persons per sq. mi. |
|---------------|--------------------|------------------------|------------------------|
| Bremen | 782 | 18.1 | 43.2 |
| Bristol | 2,644 | 33.9 | 78.0 |
| Damariscotta | 2,041 | 12.4 | 164.6 |
| Newcastle | 1,748 | 29.0 | 60.3 |
| Nobleboro | 1,626 | 19.0 | 85.6 |
| South Bristol | 897 | 14.2 | 63.2 |
| Waldoboro | 4,916 | 71.3 | 68.9 |

3.0 ECONOMY

Bremen is primarily a residential community. It is home to no large businesses and no retail stores. There is no commercial center. The town's four municipal buildings are in two locations: the fire station, salt/sand shed, and historical town hall (referred to as Town House, which is now a museum and community center); and the Town Center, which has the with the Town Office and the library.

Its geography and size have largely defined the history of Bremen's economy. Located on the Medomak River and Muscongus Bay estuary, Bremen has historically provided employment in lobstering, fishing, boat-building, clamming, forestry, and farming. Before the advent of the automobile, there were several small stores in the town and a large boat-building industry. Tourism is not a major industry in Bremen as it is in some of the surrounding towns within Lincoln County.

Bremen is located within the Boothbay Harbor-Wiscasset Labor Market Area (LMA), which also includes most of Lincoln County, including Damariscotta, Round Pond, New Harbor, and Wiscasset. Within a fifteen-minute drive of Bremen are ample retail services in Damariscotta and Waldoboro. Waldoboro lies outside of the Boothbay LMA but provides the closest shopping for residents in the northern half of Bremen. The Boothbay Harbor-Wiscasset LMA is an economically integrated geographical unit within which workers may readily change jobs without changing place of residence.

With the closing of the Maine Yankee nuclear power plant in Wiscasset, there is no longer a dominant industry in Lincoln County. Lincoln County is primarily rural and has the second lowest workforce population of all counties in the state. As in other coastal areas, tourism is an important element of the county's economy, and the population of Lincoln County increases significantly during the summer months with the arrival of tourists and "summer people."

3.1 Population and Employment

According to the 2000 US Census, Bremen in 2000 was home to 782 persons, living in 327 households. Bremen's population had increased by 108 persons (16%) since 1990. The 2000 Census also showed Bremen to have 598 housing units, an increase of nearly 33% from the 1990 figure of 451 units. The US Census Bureau has not yet released town-level income data for 2000. To describe income characteristics of Bremen residents, we must therefore rely on older data. According to the 1990 Census, median household income in Bremen was \$26,447 and median family income was \$28,625. These income levels were somewhat higher than those for Lincoln County as a whole and for the neighboring towns of Bristol and Waldoboro. But Bremen's per capita and household income levels were more than 12% lower than those of

Damariscotta. Please see Table 3-1. It is likely that income characteristics of Bremen and its neighboring towns have changed considerably over the last decade, especially given the relatively large in-migration experienced during this period (see Section 2), but without updated census figures we can only speculate on the magnitude and direction of changes.

Table 3-1: Income Characteristics: Bremen and Nearby Towns

| County | Per Capita Income | Median Household Income | % Persons below poverty |
|-----------------------|--------------------------|--------------------------------|--------------------------------|
| Lincoln County | \$13,479 | \$28,373 | 9.60% |
| Bremen | \$14,119 | \$31,250 | 12.60% |
| Bristol | | \$29,998 | |
| Damariscotta | \$16,502 | \$35,707 | 5.50% |
| Waldoboro | \$10,332 | \$23,281 | 16.30% |

*Source: U.S. Bureau of the Census, 1990.

Like income data, Census 2000 data on employment patterns have not yet been released by the Census Bureau. Table 3-2 shows the most recent available information, from the 1990 census, on overall employment patterns in Bremen. “Local knowledge” and other data sources, however, indicate that some of these figures may no longer be accurate. For example, data from Maine’s Department of Marine Resources shows that there were 41 full-time lobstermen, 33 full-time commercial clam diggers and 135 licenses for Zone D in Bremen in 2000. These numbers are substantially higher than those shown in the 1990 census data for “Fishing, Farming, and Forestry.”

Table 3-2: Employment By Occupation And Industry*

| Occupation | Persons | Percent | Industry | Persons | Percent |
|-----------------------------------|---------|---------|-----------------------------|---------|---------|
| Employed Persons over 16 | 272 | 100% | Employed Persons over 16 | 272 | 100% |
| Executive, Managerial | 24 | 9% | Fishing, Farming and Forest | 30 | 11% |
| Professional, Specialty | 48 | 18% | Construction | 18 | 7% |
| Technicians, related support | 4 | 1% | Manufacturing non-durable | 11 | 4% |
| Sales | 30 | 11% | Manufacturing Durable (BIW) | 36 | 13% |
| Protective Service | 2 | 1% | Transportation | 10 | 4% |
| Administration, support | 31 | 11% | Communication and Public U | 9 | 3% |
| Private Household | 2 | 1% | Wholesale Trade | 9 | 3% |
| Service xp protective | 26 | 10% | Retail Trade | 48 | 18% |
| Farming forestry and fishing | 25 | 9% | Finance, Insurance, Real Es | 17 | 6% |
| Precision Products, repair (BIW?) | 47 | 17% | Business and Repari Servi | 10 | 4% |
| Machine operators, assemblers | 14 | 5% | Personal Services | 4 | 1% |
| Transportation, moving materials | 12 | 4% | Entertainment and recreat | 3 | 1% |
| Handlers, equipment cleaners | 7 | 3% | Health Services | 26 | 10% |
| | | | Educational Services | 24 | 9% |
| | | | Other Professional | 12 | 4% |
| | | | Public Administration | 5 | 2% |

*Source: US Census 1990

Again, because current data are not available, we must draw on the 1990 census for this information. Table 3-3 shows that approximately two-thirds of employed persons in Bremen worked in private industry. In 1990, another 11% reported working for federal, state or town governments, and 22% were self-employed. This latter figure would have included those engaged in lobstering, clamming, and what in Maine are called "home businesses." The self-employed category is clearly larger today. Employed persons in 1990 represented 40% of Bremen's population (272 employed / 674 total population). If this ratio is assumed to be the same in 2000, then Bremen may be assumed to have an employed population of 313 (.4 x 782 total population). The 74 people identified by the Department of Marine Resources as self-employed lobstermen and clam diggers constitute 23.6% of this population. In addition to fishermen, the self-employed category would also include the many Bremen residents engaged in home occupations, such as art, baking, and wood-cutting and snow plowing.

Table 3-3: Bremen Resident Employment By Income Source*

| Classification of Worker | Person | Percent (of 272 total employed) |
|---------------------------------|---------------|--|
| Private Wage and Salary | 177 | 65% |
| Government Workers | | |
| Local | 11 | 4% |
| State | 9 | 3% |
| Federal | 12 | 4% |
| Self-employed | 61 | 22% |
| Unpaid Family workers | 2 | 0.7% |

*Source: US Census 1990

It should be noted that there are also some fishermen who commute to Bremen from surrounding areas.

3.2 Analysis

The town of Bremen does not provide many jobs, other than self-employment, within its borders --- perhaps 110-125 in total. The only “major” employer to locate in Bremen in recent years is the Maine Cat Company, which builds catamarans. Maine Cat currently employs 12 people, but none of these workers are Bremen residents.

Data from the Maine State Planning Office (December, 1999) listed Lincoln County as 6th in terms of population growth-rate. Lincoln County is considered 2nd among all Maine counties in full- and part-time employment growth and first in taxable retail sales growth. However, tourism-based businesses are generally characterized by low-paying jobs, and this is the likely reason that Lincoln County ranks below average in median family income and per capita income. The lack of major industry, other than fishing and tourism, continues to hinder growth in personal income. Forecasts (1997-2010) for Lincoln County by the Maine State Planning Board suggest that similar patterns are likely to be observed in the foreseeable future. In fact, the county ranks a very weak 14th among Maine’s 16 counties in forecasted growth in per capita income. The county desperately needs to have more high paying jobs created.

The Bremen population survey showed strong agreement among residents in response to the question: "What should be the Town's attitude toward future commercial development?" Of the people returning surveys, 71% felt that marine business like commercial fishing should be encouraged, and 67% believed that “home businesses” should be supported. In terms of future growth, 83% of respondents felt that single family housing was the only type of growth “that the Town could accommodate without jeopardizing the Bremen you love.”

3.3 Findings

- Bremen's economy currently depends heavily on lobstering, clamming, and other forms of self-employment/home based businesses.
- Residents strongly support the marine economy of the town. It is the only economic sector in which residents would like to see growth or expansion.
- Residents favor small, home-based businesses.
- Bremen is a small, residential community. Residents have consistently expressed a strong desire to keep it that way.

3.4 Recommendations

Policies

- Actively support the fishing industry.
- Limit non-marine development along the shores.
- Actively support home based businesses.
- Encourage new businesses that are clean, non-polluting and compatible with those historical and existing businesses in Bremen.
- Keep Bremen affordable.

Strategies

- Ensure that Town ordinances do not present unreasonable constraints to fishing and small home businesses.
- Participate in Regional Economic Development organizations looking for opportunities to encourage small businesses that are compatible with the rural character of Bremen.
- Publish a list of businesses in Bremen.
- Encourage the fishing community to sponsor public education forums such as the clam seeding project.
- Support State sponsored tax incentive programs that benefit the working marine waterfront.

4.0 FISCAL CAPACITY

Patterns of revenue generation and financial obligations for Bremen are shown in Tables 4-1 through 4-7 below. Implications of these patterns are discussed following presentation of the tables.

Table 4-1: Bremen Assessed Valuation

| Year | Local Assessed | State Assessed | Tax Rate | Homestead |
|-------------|-----------------------|-----------------------|-----------------|------------------|
| | <i>Value</i> | <i>Value</i> | <i>in Mills</i> | <i>Exemption</i> |
| 1991 | \$115,328,413 | \$102,700,000 | 7.8 | |
| 1992 | 92,527,618 | 108,550,000 | 8.6 | |
| 1993 | 92,029,819 | 107,400,000 | 8.2 | |
| 1994 | 93,048,811 | 94,550,000 | 7.2 | |
| 1995 | 94,074,551 | 97,650,000 | 7.5 | |
| 1996 | 95,237,023 | 91,890,000 | 8.0 | |
| 1997 | 90,597,623 | 95,350,000 | 8.6 | |
| 1998 | 92,454,381 | 93,800,000 | 7.1 | |
| 1999 | 93,648,550 | 98,850,000 | 9.5 | 1,524,750 |
| 2000 | 93,051,920 | 101,650,000 | 10.3 | 1,536,150 |
| 2001 | | 105,000,000 | 11.0 | |

Source: State letter to Town and Town Annual Reports

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Table 4-2: Bremen Student Enrollment In Primary And Secondary Schools

| Year | Primary | Secondary | Total |
|------|---------|-----------|-------|
| 1991 | 53 | 39 | 92 |
| 1992 | 41 | 33 | 74 |
| 1993 | 45* | 25 | 70 |
| 1994 | 36** | 29 | 65 |
| 1995 | 50 | 22 | 72 |
| 1996 | 48 | 26 | 74 |
| 1997 | 49 | 28 | 77 |
| 1998 | 59 | 31 | 90 |
| 1999 | 64 | 33 | 97 |
| 2000 | 64 | 37.5 | 101.5 |
| 2001 | 70 | 31 | 101 |

* 15 Students tuitioned to Nobleboro

** 19 Students tuitioned to Nobleboro

Table 4-3: Comparisons of Tax Rate*

| Town In Lincoln County | Population | State Valuation* | Mill Rate | Per Capita Tax |
|---------------------------|------------|---------------------|--------------|-------------------|
| Bremen | 782 | \$103,850,000 | 10.3 | \$1,190 |
| Bristol | 2,644 | \$397,750,000 | 8.9 | \$1,375 |
| Damariscotta | 2,041 | \$173,650,000 | 16.9 | \$1,350 |
| Newcastle | 1,748 | \$137,300,000 | 15.5 | \$1171 |
| Nobleboro | 1,626 | \$120,400,000 | 13.8 | \$1021 |
| South Bristol | 897 | \$216,950,000 | 5.85 | \$734 |
| Waldoboro | 4,916 | \$239,250,000 | 15.5 | \$742 |
| | | | | |

*Source: 2000 Census, and 2000 Municipal Valuation Report, Statistical Summary, Prepared by Property Division

** Source: Section 9, page 7 of above

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Table 4-4: Special Use Valuation*

| Town | Tree Growth | | Farm ** | | Open Space | |
|---------------|-------------|------------|---------|-----------|------------|-------------|
| | Acres | Value | Acres | Value | Acres | Value |
| Bremen | 3,467 | \$ 397,100 | 24 | \$62,430 | 5 | \$1,674,170 |
| Bristol | 1,370 | \$56,932 | 135 | \$41,867 | 363 | \$ 374,500 |
| Damariscotta | 1,219 | \$141,219 | 45 | \$22,700 | 30 | \$44,800 |
| Newcastle | 7,021 | \$839,092 | 702 | \$35,125 | 47 | \$34,945 |
| Nobleboro | 241 | \$24,939 | - | \$ - | 16 | \$300 |
| South Bristol | 819 | \$101,123 | - | \$ - | 194 | \$97,050 |
| Waldoboro | 2,214 | \$281,899 | 2,515 | \$417,000 | 159 | \$288,000 |

*Source: 2000 Municipal Valuation Report, Statistical Summary, Prepared by Property Division

**Includes Non Tree Growth Woodland and Agricultural Acres

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Table 4-5: Significant Sources Of Bremen's Revenue*

| Year | Property Tax | Excise Tax | Governmental | Education | Total Revenue |
|-------------|---------------------|-------------------|---------------------|------------------|----------------------|
| 1991 | 883,482 | 49,363 | 16,705 | 53,684 | 1,078,996 |
| 1992 | 799,381 | 50,001 | 11,251 | 24,814 | 981,730 |
| 1993 | 776,086 | 61,160 | 22,284 | 34,362 | 960,226 |
| 1994 | 683,995 | 60,088 | 46,280 | 50,786 | 891,851 |
| 1995 | 698,925 | 65,475 | 38,922 | 43,202 | 893,148 |
| 1996 | 758,524 | 74,277 | 103,679 | 19,702 | 1,006,399 |
| 1997 | 783,465 | 77,207 | 42,886 | 25,163 | 976,314 |
| 1998 | 656,858 | 87,516 | 44,225 | 3,800 | 858,683 |
| 1999 | 924,282 | 93,281 | 43,770 | 6,736 | 1,144,946 |
| 2000 | 952,610 | 108,345 | 49,526 | 7,690 | 1,198,693 |

*Items don't add up to Total Revenue. Table only includes significant items. All items in dollars.

Table 4 – 6: Significant Expenditures*

| Year | Education | Government | A & W | Bridges & Roads | Safety | County Tax | Total ** Expenditure |
|-------------|------------------|-------------------|------------------|----------------------------|---------------|-------------------|-----------------------------|
| 1991 | 576,813 | 51,600 | 36,080 | 148,304 | 41,885 | 70,491 | 950,473 |
| 1992 | 561,979 | 112,533 | 29,484 | 102,726 | 53,407 | 70,165 | 966,977 |
| 1993 | 562,465 | 63,790 | 30,870 | 141,468 | 46,464 | 72,250 | 930,924 |
| 1994 | 439,855 | 67,392 | 38,197 | 134,631 | 46,693 | 65,916 | 907,044 |
| 1995 | 543,937 | 80,080 | 45,090 | 121,463 | 46,291 | 68,908 | 958,208 |
| 1996 | 456,369 | 65,310 | 46,843 | 117,851 | 51,268 | 72,379 | 886,477 |
| 1997 | 446,905 | 96,078 | 37,861 | 136,513 | 52,391 | 78,551 | 1,005,078** |
| 1998 | 469,585 | 96,330 | 39,746 | 118,385 | 48,475 | 79,535 | 865,234 |
| 1999 | 550,115 | 111,342 | 46,158 | 128,829 | 39,016 | 93,849 | 987,854 |
| 2000 | 657,199 | 108,703 | 31,487 | 126,820 | 40,836 | 104,331 | 1,239,303 |

*Items don't add up to Total Revenue. Table only includes significant items. All items in dollars.

** Includes special payment to GSB of 140,000

Table 4-7: Bremen Fund Balances, 1991 - 2000*

| Year | Total Revenue | Total Expenditures | Surplus/ Deficit | Undesignated Surplus | Reserve Funds Designated |
|-------------|----------------------|---------------------------|-------------------------|-----------------------------|---------------------------------|
| 1991 | 1,078,996 | 990,473 | 128,523 | 217,714 | 384,900 |
| 1992 | 981,730 | 966,977 | 14,753 | 223,116 | 400,476 |
| 1993 | 960,226 | 930,924 | 29,302 | 309,457 | 346,232 |
| 1994 | 891,851 | 907,044 | (15,193) | 279,789 | 363,444 |
| 1995 | 893,148 | 958,208 | (65,060) | 264,753 | 248,513 |
| 1996 | 1,006,399 | 886,477 | 119,922 | 436,058 | 264,753 |
| 1997 | 976,314 | 1,005,078 | (28,763) | 434,209 | 330,909 |
| 1998 | 858,638 | 865,234 | (6,652) | 459,368 | 214,996 |
| 1999 | 1,144,946 | 987,854 | 157,092 | 529,683 | 302,931 |
| 2000 | 1,198,693 | 1,239,303 | (40,610) | 444,812 | 427,326 |

*Source: Auditor's Report published in Town Annual Report

4.1 Analysis

In 2000, the total of local assessed valuation of Bremen property was lower than in 1991 (\$93 million versus \$115 million: Table F-C-1). However, state assessed valuation for the Town was essentially unchanged from the beginning to the end of the decade. The difference between the local assessed value and the state assessed value for tax year 2001 is about \$12 million, with the state providing the higher assessment. Because this difference is increasing each year, Bremen may wish to complete a new "market value" assessment.

Over the 1990s, Bremen's expenditures for education rose from \$576,813 to \$657,199, an increase of 14% for the decade. The number of K-12 students increased by only 10% (from 92 to 101.5), and thus cost-per-student rose during the decade.

Spending for town government more than doubled during the last decade, from \$51,000 to \$108,000. This increase parallels the availability of excise tax revenue, which is the principal source of local government funding.

Spending for roads and bridges has remained relatively constant over the past ten years. In fact, the budget for roads and bridges was higher in 1991 than in 2000. If one were to adjust for inflation, spending for roads and bridges has declined significantly. The town probably needs to increase its planned expenditures for roads and bridges in coming years.

Bremen owns relatively few assets. The total value of land, buildings and equipment, as of 2000, was \$795,000. It is unlikely, therefore, that future capital expenditure requirements will be very high. They will be limited primarily to maintaining roads and bridges and perhaps making improvement to the town landing.

The town's undesignated surplus reached \$529,000 in 1999 (an all-time high) and still stood at \$444,000 in 2000 (Table FC-7). This surplus was 36 percent of the budget, well above the state guidelines of 8.3 percent. Since 1991, the town has run an annual deficit five times and a surplus five times. The average annual surplus has been higher than the average annual deficit (each for five years), with the result that the total cumulative undesignated surplus has increased to its current healthy level. In the year 2000, the deficit of \$40,000 was somewhat artificial because the total cost of the new fire engine (\$150,000) was written off as an expense, while one-half of the cost of the fire engine was actually covered through \$75,000 in long-term debt. (Curiously, this accounting procedure is allowed under state law.) Without the cost of the fire engine, the town would have generated a surplus of \$110,000.

Under state law Title 30 M.R.S.A. section 5061, municipalities are allowed to borrow up to 15% of their assessed value. A commonly accepted rule of thumb or guideline is for municipalities not to exceed 5% of their assessed value in outstanding long-term debt. As of the end of 2000, Bremen's locally assessed value was \$93,000,000. Using 15% as a debt-ceiling limit, Bremen could borrow approximately \$14 million by State Law. Using the 5% guideline, the total amount that could be borrowed is approximately

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\$4,650,000. The actual outstanding debt is \$75,000 (the new fire engine), or less than one percent of assessed value. Bremen therefore has substantial borrowing power for the future.

The town of Bremen does share some of the outstanding long-term debt of Great Salt Bay School. However, this debt is not shown on Bremen's books. Rather, Bremen makes an annual payment of interest and principal to Great Salt Bay that is built into the tuition costs per student.

The total value of tax dollars lost due to open space exemptions (\$25,150) and tree growth (\$102,710). These lost tax revenues represent approximately thirteen percent (13%) of total property taxes for the year 2000.

With a healthy undesignated surplus, very little long term debt, and substantial borrowing power, the town of Bremen is in excellent financial condition. Bremen's tax mill rate remains one of the lowest among the surrounding towns. The Town's government should be commended for solid fiscal management.

5.0 NATURAL RESOURCES

5.1 Overview¹

"The quality of life in Bremen has been dependent on the town's natural resources throughout its history. Understanding and preserving our natural environment is necessary for maintaining the character of the town as we know it into the future. These resources contribute to the town's attractiveness as a place to live for all residents and provide the livelihood for many, including the sea, with its fisheries, scenic shoreline, secluded coves and marshes, and offshore islands; the freshwater ponds, with their sport fishing and fragile wetlands; the abundant woodlands; and the Town's open fields and meadowlands.

These natural features also provide critical wildlife habitat. Generally, the loss of small pieces (lots) of wildlife habitat will not have an immediate impact on wildlife. Rather, it is the gradual, cumulative loss of habitat that eventually reduces the capacity of an area to sustain healthy, diverse plant and animal populations.

5.2 Scenic Views

"There are no bad views in Bremen" is the answer when asking opinions on important visual areas in Bremen.

Water is the most distinguishing factor. Water means the salt water of the Medomak River, its coves, islands and the freshwater ponds -- McCurdy, Biscay, Pemaquid, and Webber. The salt water of Bremen is home to working watercraft for the most part as opposed to pleasure craft which might tend to anchor in Camden or Rockport.

In addition to our working waterfront, meadows and forested areas are also important visually. In the spring, lupines grow in many of the meadows and brown eyed Susan, daisies, Queen Anne's lace, and a variety of flowering clover replace them in summer. Fall brings aster, milkweed, and goldenrod.

Forests in Bremen are made up of both hardwood and softwoods. Some examples being, red and white spruce, white pine, red oak, white birch and red maple. In boggy areas, alder, swamp maple, and dogwood grow. A variety of ferns appear as well lending texture as well as color to the forest floor.

Bremen, unlike many other towns in New England, has no town center or village green. It has, however, a number of historic houses which contribute to the character of Bremen and which are definitely part of the scenic view. The Town House is beginning to be used again as a gathering place for functions and has recently been placed on the National Register of Historic Places.

Some of the area's views that townspeople value and that contribute to the unique

¹ Since natural resources don't change, the following is liberally quoted or paraphrased from the 1988 Comprehensive Plan.

character of Bremen include:

From Johnson Hill especially the Fire Tower, one can see Mt. Washington, Monhegan Island, and the Pemaquid Peninsula,
View of Biscay Pond from the road as one approaches Bremen,
View of Greenland Cove from Shore Road,
Medomak Road far end looking toward the islands,
Views of Medomak River from the Town Landing,
Views of the Sound from Muscongus Road,
View of Hockomock Channel and Bremen Long Island from the Audubon end of Keene Neck Road,
Webber Pond views from Waldoboro Road,
Views of Pemaquid and Mc Curdy Ponds from Turner Road,
Views of Broad Cove from various parts of Route 32.

5.3 Topography

Topography refers to the lay of the land or natural landforms. It is important because of its influence on views, aesthetics, drainage patterns, and erosion potential. The two major components of topography are relief and slope.

Relief is the height of land above sea level and the relative height of landforms to their surroundings. It is not particularly significant in Bremen. The highest points in town are only about 300 feet above sea level. Nevertheless, development to date has avoided these higher elevations but may not in the future as the availability of land decreases.

Slope, or the steepness of land, is the amount of rise or fall for a given horizontal distance, expressed in percent. A 25% slope means a vertical change of 25 feet of elevation over a horizontal distance of 100 feet. Slope affects the suitability of land for many uses. It affects the economy and function of septic systems and the design and placement of structures and roads.

For example, the Maine Plumbing Code does not permit septic systems on a slope greater than 25. Disturbance of natural vegetation on slopes greater than 20% leads to excessive erosion and the resulting sedimentation of water bodies

The attached Map #1-Panel 4 "Lands in Trust and Steep Slopes" shows that steep slopes in Bremen tend to be on the shoreline of the ponds, along Shore Road, along Medomak Landing, and a strip across the north end of Bremen Long Island. (Note that the Panel #s referred to on the maps are from a large map posted in the Town Office which shows all the maps referred to in this Plan as Panels.)

5.4 Soils

The Natural Resource Conservation Service of the USDA provides information about the various soil types in Bremen in detail in the Soil Survey of Knox and Lincoln County Maine. This information can be used to support land management programs and contains predictions of soil behavior for selected land uses. For the purpose of the Comprehensive Plan, the soil suitability for subsurface disposal systems is considered the most important characteristic, which would affect development in Bremen.

The Soil Survey of Knox and Lincoln Counties Maine includes a General Soil Map, which identifies seven major soil groups that exist in these counties and shows the approximate locations. Five of these soil groups occur in Bremen, and they roughly divide Bremen into four areas as follows

Map #2 – Panel 2 Natural Resource Conservation Service Medium Intensity Soil Suitability shows the general suitability of the soil for development. Note that we always modify the location of soil types by "generally." That is because the soil surveys are only accurate to within 3 acres. Any activity, which is soil dependent, will need an on-site soil evaluation, performed by a Certified Site Evaluator, a list of which is available at the Bureau of Health Engineering 287-5338.

Soils are poor throughout Bremen. All the soils are from either the underlying basement terrain or from re-working of the superimposed glacial material. The soils are predominantly clay soils and have a minimum of quartz content. In terms of soil composition, the Town may be divided into the following areas:

Area #1 Northwest corner of Bremen including the Rt. #32 corridor and west to Pemaquid Pond and from the Waldoboro line to just south of the Turner Road / Rt #32 intersection. (Includes several gravel pits.) Peru-Turbridge-Marlow and Masardis-Sheepscot-Adams are the predominant soil types. They are rated for medium to high development potential, relative to other types of soils found in Knox and Lincoln counties

Area #2- Northeast corner of Bremen east of the Rt #32 corridor to the West Branch and from the Waldoboro line to just south of the Turner Road / Rt #32 intersection. Buxton-Scantic-Lyman are the predominant soil types which are rated medium to very low development potential

Area #3 Strip along the east side of the southern end of Pemaquid Pond and along the entire length of Biscay Pond strip along the west side of Webber Pond, and the area between these two strips which completely surrounds McCurdy Pond. Rock Outcrop-Lyman-Turnbridge are the predominant soil types which are rated medium to very low development potential

Area #4 Southeastern section of Bremen including Bremen Long Island, Hog Island, and Hungry Island. This area includes the relatively densely populated

areas of Medomak and Muscongus. Lyman-Peru-Scantic predominant soil types which are rated medium to very low development potential

In addition to low density residential development, soils in portions of Areas #1 and #2 are suitable for farming and most soils in Areas #1, #2, and #3 are prime woodland soils.

5.5 Groundwater

The 1988 Plan stated that there are no significant sand and gravel aquifers in Bremen and that the vast majority of homes and businesses in town get their water supply from wells drilled into the bedrock.

Thanks to the requirement that well drillers submit information on new wells, the Maine Geologic Survey has collected data since 1988 on yields, the depth to water and bedrock. The maps and data are in the Comprehensive Plan File at the Town Office.

The data is incomplete because it is only on wells drilled since 1988. As more information becomes available, perhaps we will be able to discern a pattern.

It is the characteristic of fractured bedrock that there does not seem to be, at this time, a pattern offering some predictability. The yields and depth can vary tremendously within a few hundred feet of each other. The Town will create a groundwater map that will attempt to quantify the possible variation.

There are a number of wells along Route 32 and Turner Road that have high yields. This may be the result of a local fracture specific basement lithology or a manmade enhancement.

Reviewing the data on 117 wells, 22 had yields greater than 20 gallons per minute (GPM). Of these 22 wells, the mean depth is 200 feet and the mean yield is 30 gpm or 43,200 gpd, which is as much as a small town public water supply.

(The Maine State Plumbing Code design flow standard is 270 GPD for a 3 bedroom home. 1 gallon per minute is 1,440 GPD.)

The 1988 Comprehensive Plan reports that residents along the south and west shores of McCurdy Pond have had difficulty drilling a well with sufficient yield and are using the Pond as their water supply. Also, two wells on Porcupine Ridge have been found undrinkable due to high chloride content. Other incidents of salt water intrusion along the shore have also been reported.

A voluntary program will be set up that will attempt to check as many wells as possible for groundwater quality, including salts, metals, and nitrates.

5.6 Wetlands

There are several definitions of Wetlands. The Federal wetlands programs define wetlands based upon vegetation, soil types, and hydrology. The state definition is now found under the Natural Resource Protection Act:

"Coastal wetlands- all tidal and subtidal lands, including all areas below any identifiable debris line left by tidal action; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action during the maximum spring tide level as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes"

Forested Wetland- "means a freshwater wetland dominated by woody vegetation that is 6 meters tall, or taller."

Freshwater Wetland means freshwater swamps, marshes, bogs, and similar area that are:

1. Inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; and
2. Not considered part of a great pond, coastal wetland, river, stream, or brook.

Wetlands serve several vital functions to the surrounding environment.

1. They act as sponges, storing water. During storms they help spread the peak water flow, and by releasing it slowly prevent flooding and erosion.
2. They filter storm water runoff.
3. They provide critical habitat for nesting and early nourishment for fish, waterfowl, amphibians, birds, and reptiles.
4. They are also part of the habitat for large and small mammals, such as deer, moose, muskrat, beaver, mink and otter.
5. Wetlands also provide important fishing, hunting, bird watching, and other recreational opportunities.

Bremen has roughly two dozen wetlands/swamps (larger than 10 acres). These wetlands are both coastal and freshwater.. Map #3 Panel 3 attached in this section US Fish and , Gulf of Maine Program shows wetlands included in the National Wetlands Inventory .. They were prepared from the analysis of high altitude photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography. There is no relationship to legal jurisdiction, i.e. shoreland zoning or Federal Corps of Engineers.

5.7 Important Natural Areas¹

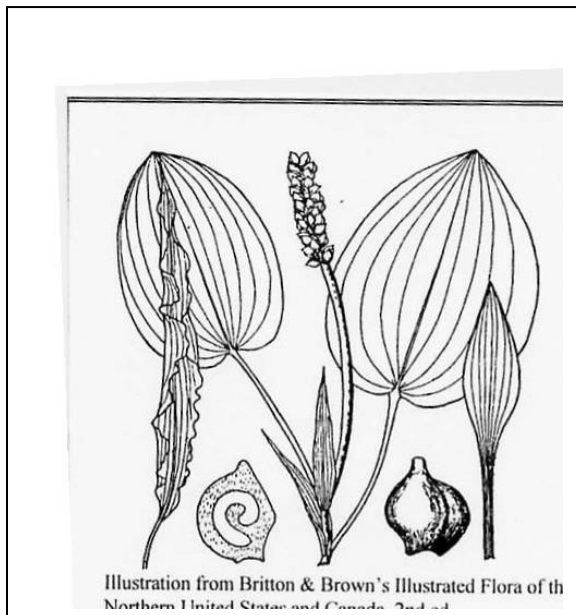
The Natural Areas Program inventories lands that support rare and endangered plants and animals, rare natural communities and outstanding examples of representative natural communities.

The features can be assumed to be of at least statewide significance. Information is updated by field surveys. Botanical features found on listed Bremen sites include the following:

AMERICAN SHORE-GRASS- *Littorella Uniflora* is rare in Maine “(on the order of 20-100 occurrences)²” demonstrably secure” globally and of “Special Concern” meaning it is rare in Maine but not sufficiently rare to be considered threatened or Endangered. Fact Sheet is not available.

SPOTTED PONDWEED- *Potamogeton pulcher* is a weed, which flowers June through September , its habitat is peaty or muddy acid waters or shores. It was found along the southeastern shore of Biscay Pond. It is characterized by simple,

black-spotted stems and stalks, oval floating leaves and lance shaped submersed leaves.



It is “critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspects of its biology makes it especially vulnerable to extirpation from the state of Maine” The state ranking assigned by the Natural Areas Program is, S-1. Globally it is a G-5, ranked by the Nature Conservancy” *Demonstrably widespread, abundant*”. The State’s legal status is “Threatened-rare” and, with further decline could become endangered;. It is at the edge of its range.

MARITIME SPRUCE-FIR FOREST- last checked in 1998, a mixed forest of red spruce, white spruce, balsam fir, and /or larch. It is found mid-coast Maine eastward into the Canadian maritimes. In Bremen, it is found on Hog Island, already a protected Island by the Maine Audubon Society. State Rarity is “S-4”

¹ Sources of information used to identify important natural areas in Bremen included: The Natural Areas Program and , “Beginning Habitat” mapping programs in the Maine Department of Conservation.

² Quoted information is from a fact sheet provided by the Natural Areas Program, State House Station 93, Augusta, Maine (207) 287-8044, May 1, 2003

“apparently secure in Maine” and globally it is a G4 and G5, *“apparently secure globally”*.

While the maps and information have not yet been officially issued, Tom Burns our mapper used the data to prepare Map #3 referred to above under Wildlife Habitat. This map also show areas of eel grass and significant wetland. Explanation and protection recommendations are available at the Town office.

The State’s natural resource information system is obviously in transition. There are no descriptions available yet with the maps In the meantime, in order not to loose valuable information we will list the locally significant natural resource areas identified in the 1988 Plan. Even though the areas listed in Table 5-1 were not included in the listing received from the Natural Areas Program, they are valued and should be recognized as locally significant. These resources are still here; it is only the methods of recording and categorizing them that have changed. Most of this information is now mapped by the Beginning Habitat program, but it does not have the valuable narrative. The author of the '88 plan cites the following sources for the data:

- Maine State Planning Office formerly the Natural Areas Inventory, now in Department of Conservation,
- Maine Department of Inland Fish and Wildlife ,
- Maine Department of Marine Resources,
- Maine Geological Survey—MGS,
- National Audubon Society-NAS.

Table 5-1: Important Natural Areas in Bremen

| Name/Location | Reason for Selection | Source |
|--------------------------------|---|--|
| Hog Island- now belongs To NAS | Bald Eagle Nest, Osprey Nest, A High use area For marine birds, Bird Nesting Area, Tidal flats important to waterfowl, clam flats, mussel bar, Lobster, herring, striped bass fishery | NAS Inland Fish and Wildlife Department of Marine Resources |
| Crotch Island | Moderate use for marine bird nesting, common tern, common eider, black-backed gull, Seal haul out | Inland Fish and Wildlife,NAS State Planning Office |
| Jim’s Island | Moderate use for marine bird nesting, osprey eiders, seal haul out, ledges | Inland Fish and Wildlife |
| Cow Island Ledges | Seal haul out, approximately 200 seals in 1987 | NAS and Inland Fish and Wildlife |
| Cow Island | Virgin spruce forest 100-150 ft rocky beach, freshwater marsh | State Planning Office, NAS, Inland Fish and Wildlife |

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Table 5-1: Important Natural Areas in Bremen (continued)

| | | |
|--|--|--|
| Bremen Long Island Ledges | Seal haul out, gulls, terns, cormorants, eider nesting, scallop beds | Inland Fish and Wildlife Department of Marine Resources |
| Bremen Long Island | 3 Osprey Nests, Clam flats one of the highest use areas for marine birds, striped bass, herring, scallop fishery (in 1987) | Inland Fish and Wildlife and Department of Marine Resources |
| Oar Island | Medium High use by marine birds. Tidal flats important for waterfowl, bird nesting, and herring fishery | Department of Marine Resources |
| Pitcher's Cove | Medium high use by marine birds. Important use by migratory birds | Inland Fish and Wildlife |
| Broad Cove (Heath Point to Waldoboro Line) | One of the highest use by marine birds in Fall, Medium high in Spring and Winter, Tidal flats important to waterfowl, clam flats, mussels. Views from Route 32 may be included in State Scenic Area Inventory. Seal haul out | Inland Fish and Wildlife Department of Marine Resources, State Planning Office |
| Mill Pond (Keene Neck) | Protected Salt Marsh, Thriving Marine Invertebrate population includes warm water species such as oyster drill, quahog, Medium High use marine birds Clam, marine work, alewife and smelt | State Planning Office NAS, Inland Fish and Wildlife |
| Greenland Cove | Medium High Use marine birds, Some seal haul out. Tidal flats important to waterfowl, some clam flats | NAS Inland Fish and Wildlife, Department of Marine Resources |
| Muscungus Harbor | Alewife, smelt, American eel, Cardinal Lobella, Pink Cardinal Lobella, fragile fern habitat, View of open water, high shoreland configuration | State Planning Office (now Natural Areas Program) |
| Medomak Bog (Muskrat Pond) Wetland #90 from State Freshwater Wetlands Inventory (1983) | Fresh water marsh, some open water, Breeding black duck, beaver, swamp sparrow, bittern, virginia rail, long-bill marsh wren. Roost for black crowned night heron. Colonial bird nesting area. Important use by migratory birds. | NAS Inland Fish and Wildlife |
| Turner Road Wetland #95 and #96 from State Freshwater Wetlands Inventory (1983) | Inland shallow fresh marsh habitat important to waterfowl migratory birds, fur-bearing animals | Inland Fish and Wildlife |

5.8 Wildlife Habitat

Habitat provides food, shelter, and safety for wild species. Wildlife habitat in Bremen includes meadows, forests, ponds, rivers, fresh and saltwater marshes, and the rocky and sandy shores of our mainland and islands.

Although mapping and significance rating of wildlife habitat is in a state of flux, maps useful for these purposes have been obtained from two sources. Map #3 - Panel 3 of U.S. Fish and Wildlife Gulf of Maine Program High Value Habitat and Other Significant Habitat shows high value and significant habitat mapped by the US Fish and Wildlife, Gulf of Maine Program. These are drafts. More information about them will be published in the future. The Department of Inland Fisheries and Wildlife Report map was sent by James Connolly, the Regional Wildlife Biologist. (See Map #4.) It shows the identification and rating of Inland Wading Bird Habitat and Waterfowl Habitat (usually wetlands). IF & W is now in the process of designating Essential Habitats. They will be provided towns soon. Not included here, but in the Comprehensive Plan File at the Town Office is the Wildlife Habitat Map, which shows "Legally Adopted or Candidate Essential and Significant Wildlife Habitats." It also shows the Coastal Wildlife Concentration Areas, described below. The value of these maps is that they can be consulted when the Planning Board reviews a Site Review or Subdivision Application. From the available maps, the following critical habitats can be identified:

- **Bald Eagle Nest Sites**

Bald eagle nest sites are the only areas currently designated Essential Habitat by the IF&W. Bald eagles live along wooded shorelands near large expanses of open water. They mate for life; often building multiple nests within one mile of each other that may be used alternately, in different years.

Eagles are somewhat tolerant of human activity during non-breeding season, but active nest sites are easily disturbed and must be protected from human disturbance.

Department of Inland Fisheries and Wildlife lists two bald eagle nests on Hog and Crotch Islands. The nest on Crotch Island may be now be an alternate nesting site as it was not active this year according to the Maine Audubon. There appear to be two additional nesting sites, one being on Webber Pond, the other, and an "historic" site on McCurdy Pond. The eagles on McCurdy have been observed wintering over and feeding there as well. The Maine Audubon in Bremen has identified McCurdy as a bald eagle feeding and wintering area.

- **Deer Wintering Areas**

The primary behavioral mechanism for deer to conserve energy during winter is to move to traditional wintering areas or “yards.” These areas provide deer with shelter from radiant heat loss as well as improved mobility in the snow.

There are deer wintering areas on Hog Island and Bremen Long Island, Johnson Hill, NE Pemaquid Pond at the Bremen/ Waldoboro line. They are displayed on the Natural Resource Map. Any changes in construction of homes or commercial or industrial development would significantly alter these deer wintering areas.

- **Waterfowl and Wading Bird Habitat, Including nesting and Feeding Areas.**

The Department of Inland Fisheries and Wildlife map shows waterfowl and wading bird habitats, nesting and feeding areas: On the SE side of Pemaquid, the area between Pemaquid and McCurdy Ponds; Medomak Bog (Muskrat Pond), West and South side of Webber Pond.

The area between Biscay and Pemaquid Ponds is the only area that has been evaluated. It is rated High value, which means any activity would require a permit by the DEP, under the Natural Resources Protection Act. It would also trigger the 250 foot setback described in Shoreland Zoning (see below). Some of the birds found in this area are American black ducks, Blue-Winged and Green-Winged teal, Wood and Ring-Necked ducks, Buffleheads, Common goldeneyes, Hooded mergansers, Lesser scaup, American coots, loons, Swamp sparrow, Bittern and Black Crowned Night heron as well as the Great Blue heron.

- **Shorebird Nesting, Feeding and Staging Areas**

IF &W reports such sites on Greenland Cove, Hog Island, Broad Cove, and Jim's Island. They are not mapped. However, by definition, they are considered Significant, subject to the Natural Resources Protection Act. Spotted sandpipers, Greater Yellow legs, Less Semi-Palliated Piper plovers, Black Billed plover are examples of shorebirds.

- **Sea Bird Nesting Islands**

IF &W considers Crotch Island a Sea Bird Nesting Island. Species likely to be nesting there include: gulls, least terns, and cormorants

In addition to the already mentioned species, some land birds also breed on the islands. Among these are the Northern parula, Black and Green Throated warbler. Osprey nest sites can be found on Crotch, Hog, and Bremen Long Island as well as the ledge marking pole between Hungry and Bremen Long Island.

Game birds can also be found in Bremen and include the ruffed grouse, woodcocks, turkeys and pheasants.

- **Coastal Wildlife Concentration Areas**

Greenland Cove and Hockomock Channel is classified B. Cow Island, Crotch Island, Coombs Ledge, Jim's Island are Class C.

Species found in abundance include: Black guillemot, feeding between Bremen L.I. and Cow Island, eiders, scooters, Winter White Wing scooters.

- **Seals**

Seal haul outs, where seals come out of the water to sun themselves, can be found on the following ledges: Bremen Long Island ledge, Middle ledges, Cow Island Dry ledges, and Jim's and Coombs ledges. Seals have also been observed sunning on the Broad Cove gull rocks, at the mouth of the western branch of the Medomak.

- **Mammals**

Animals still abound in the Bremen area and can be found on the mainland as well as some of the islands. Deer, raccoon, squirrel, (red, gray, and flying), chipmunk, Red fox, porcupine, woodchuck, weasel, snowshoe hare beaver, muskrat, Eastern coyote, Black bear, bobcat, fisher and moose appear at different times during the year.

5.9 Forestry and Agriculture

Bremen has a total of 10,462 acres of land within its boundaries. Although there are no large commercial forests in town, there is a good quantity of forestland. Beyond the obvious commercial value, these forestlands provide protection for lakes and ponds, habitat for wildlife, scenic beauty and numerous recreational opportunities for people.

Within the Town, there are 71 parcels of land currently classified as forestland under the State of Maine's *Tree Growth Tax Law*, totaling 2,899.28 acres. This acreage consists of 11% softwood, 24% hardwood and 65% mixed woods. Although the State's *Tree Growth Tax Law* encourages forest management for timber production, owners of forestland in Bremen have additional objectives, including conservation, tax savings, fuel wood supply and privacy.

The number of wooded lots classified as forestland under the *Tree Growth Tax Law* changes each year. Development, subdivisions and changes in usage affect the ability of a parcel of land to qualify as managed forestland. Between November 2000 and November 2001, 10 parcels of land in Bremen, totaling 569.75 acres, were withdrawn from the *Tree Growth* forestland classification.

Bremen also has 11 parcels of land classified under the State of Maine's *Farm and Open Space Tax Law*, and although there are no major commercial farms in Town, two lots, totaling 38 acres, are classified as farmland; these acres are a combination of crop, orchard and pastureland. According to the United States Department of Agriculture's Natural Resource Conservation Service, there are no soils in Bremen that are considered prime for agriculture. That said, hay and blueberries are the prominent

crops raised in town. Also, there are other small farming operations, in Bremen, not classified under the *Farm and Open Space Tax Law*.

5.10 Existing Controls Governing Natural Resources

Protections currently exist for Bremen's natural resources both in State legislation and Town ordinances. The most significant of these protections are:

Shoreland Zoning Act- (Title 38, Section 435 through 449)

Although it is focused on the "Shorelines," the Act is potentially the most effective tool available for controlling the threats to the natural resources in Bremen. It is a State law that the Town shall regulate the land use within 250 feet of the normal high water mark of the bay, rivers, great ponds and coastal and freshwater wetlands, and within 75 feet of certain streams.

The Guidelines Ordinance requires that wetlands within the 250' Shoreland Zone which were rated "moderate" or "high value" by Maine Department of Inland Fisheries and Wildlife on maps issued in 1973, shall be designated "Resource Protection". This threshold was triggered by only one wetland rated High, on the northwest corner of Town between Biscay and Pemaquid Pond. It is now zoned Resource Protection, where structures are not allowed and other activities, such as timber harvesting are limited.

IF &W is reevaluating the ratings, and there is also the Gulf Of Maine rating system which is now being published. At any rate, the Town can choose to zone Resource Protection 250' or more from the upland edge of any wetland.

Furthermore, if the Town wants to be serious about protecting wildlife habitat, corridors, water quality, fisheries and open space, it must enforce the shoreland-zoning ordinance or its own zoning ordinance, whichever is more restrictive.

The Natural Resource Protection Act (Title 38, Section 480, A through S)

This Act regulates activities which may have a deleterious affect on rivers, streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and coastal sand dune systems.

DEP may issue a so-called "permit by rule" which are really a set of standards directing the applicant to be careful and conduct activities according to best management practices. Developments with potentially significant impact such as dredging, filling or road building, for example, within a highly rated Deer yard may require a permit. That determination is made by DEP upon receiving a notice or application for a permit by rule.

The criteria for granting a permit include:

"The activity will not unreasonably harm any significant wildlife habitat, freshwater

wetland plant habitat, aquatic habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life."

Standards are issued in regulations. Mitigation is allowed to minimize, or reduce the impact by "*compensation for an impact by replacing the affected significant wildlife habitat*".

Enforcement is by DEP.

The Endangered Species Act of 1975 – 12 MRSA §§7753,7754,7755-A

There is a process for the Commissioner of the Department of Inland Fisheries & Wildlife to designate an essential habitat for an endangered or threatened species. Then, any activity within the area requires a permit from the Department of Inland Fisheries & Wildlife. This procedure must be used for the eagle nest(s).

In practice, this means that any activity, which is suspected of affecting an endangered habitat, should be brought to the attention of the Department of Inland Fisheries & Wildlife Regional Biologist.

Local Ordinances¹

Performance standards defined in Bremen's Subdivision Ordinance include a section requiring retention of open spaces, scenic views, and natural or historic features:

"The (Planning) Board may require that the development plans include a landscape plan that will show the preservation of any existing trees, larger than 24 inches diameter at breast height, the replacement of trees and vegetation, grade contours, streams and the preservation of scenic, historic or environmentally significant areas."

Furthermore, if the land is reserved for scenic purposes, there shall be "*such access as the Board may deem suitable and no less than twenty-five feet of road frontage.*" (Both above quotes from Section 10.2 of the Bremen Subdivision Ordinance)

The Ordinance, in Article XI, protects the quality and quantity of groundwater by requiring the developer to submit a hydrogeologic impact assessment (at the developer's expense). This provision was further amended by increasing the distance that needs to be protected from 300' to 500' from the water body.

The Subdivision Ordinance compliments Bremen's Shoreland Zoning Ordinance, and adds a measure of protection to wildlife corridors by requiring restrictions to cutting and clearing in the shoreland strip. Bremen's Shoreland Zoning was enacted

¹ All local ordinances are available at the Town Office

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in 1993, and it has been recently amended to increase minimum lot size to 87,000 sq. ft. and minimum shore frontage to 300', and to add a Commercial Marine Zone.

Groundwater quality is protected through requiring that provisions be made to assure that the concentration of contaminants 500' from the well not exceed ½ the primary drinking water standards issued by the State or the Federal EPA.

Bremen's Site Plan Review Ordinance, adopted in March 2001, protects the natural resources discussed in this section through the following:

2. "Environmentally sensitive areas, including but not limited to, wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and gravel and bedrock aquifers must be maintained and preserved to the maximum extent"....

4. "The development must include appropriate measures for protecting these resources, including but not limited to, modification of the proposed design of the site, timing of construction, and limiting the extent of excavation. (Site Plan Review Ordinance Section 8 A, 2 and 4)

Roads must be designed to harmonize with the topographic and natural features of the site by minimizing activities which result in unstable or erosive conditions and retaining as much vegetation as possible (Section 8-D-4)

Erosion is controlled by requiring the submission of a Plan and Best Management Practices prescribed by the Natural Resource Conservation Service. (Section 8-L)

Groundwater is protected through requiring any development using more than 2000 GPD to meet Primary Drinking Water Standards at the boundary line. The Planning Board may also require a hydrogeologic assessment.

Groundwater is protected by requiring a permit for any business using more than 1000 GPD. (9.2 A,C)

5.11 Analysis and Recommendations

1. Scenic Views

Conservation easement and large lot size could be two ways to protect these areas. However, purchase of scenic sites by the Town or organizations such as Medomak Valley Land Trust, Damariscotta River Association, or the Pemaquid Watershed Association would both allow public access and provide protection of the Town's beautiful views.

2. Soils

A view of the map and compilation of the data points out very clearly that, except for the northwest section of Bremen including the corridor along the northern end of Route 32, most of Bremen is not well suited for developments, which require subsurface sewage disposal or for dwelling with basements. The depth to bedrock and the high water table are limiting factors as well.

How is it then that we have the most developments in the areas least suited for septic? There are at least two reasons. The Villages were settled well before the modern era of high water use and stringent plumbing codes. Second, the newer homes built to current standards overcome the limitations of the soil with engineered systems becoming more prevalent as the amount of suitable land available diminishes.

The limitations of our soil should serve as a warning that large scale, concentrated development on Bremen's poor soils could lead to public health risks from septic leachate breaking through to the surface or the likelihood of ground and surface water contamination from the inability of our soils to break down quickly and absorb these pollutants.

These soils are more prone to erosion when runoff patterns and volumes are changed by the removal of trees and natural vegetation to make way for buildings, pavement and lawns. The impact of developing on poor shallow soils is the accelerated eutrophication of the ponds, extensively discussed in the next section

While poor soils can be overcome by technology, these systems are generally larger and more expensive than if they were in good soils. However, property owners and developers should be aware of the inevitable need for replacement systems for new or existing leach fields at some future time and therefore the need for finding a second or third suitable site with their lot(s). This factor needs to be taken into account in the development of minimum lot-size requirements.

Minimum lot sizes will also act as a buffer to maximize the separation between leach fields and possible recharge points into the aquifer

It is likely that Bremen residents will continue to rely on on-site subsurface disposal systems in the near future. The current widely spread population and the presence

of bedrock close to the surface make a centralized sewage treatment system financially unfeasible. However, the relative cost of sewage treatment versus increased minimum lot size is an important consideration for Town planning.

In the citizen survey conducted by the Comprehensive Planning Committee, 83% of respondents thought soil type and the capability of the soil to support a septic system should determine the lot size.

The Town of Bremen recognizes the limited suitability of the soils for development. The cost of sewer system is a severe limitation to dense residential development. Therefore, the Town should encourage large lot sizes. Since clusters may affect existing wells, any new cluster development should require evaluation of impact on existing wells. The Town should sponsor a re-evaluation of the published soils map of the peninsula and identify highly sensitive areas

3. Groundwater

Ground water is a scarce and vulnerable resource. The quality or quantity of ground water is threatened by at least the following:

- Contamination from any source, but particularly of organic chemicals is a threat to the drinking water because these toxic substances tend to stay in the system indefinitely and appear at unpredictable place and time. Prevention of contamination from industrial or manufacturing sources is of utmost importance and responsibility for the Town.
- The Saltwater intrusion-seepage of salt water into bedrock aquifer system would become a problem if there were a substantial increase in the use of groundwater, resulting in the movement of the water table.
- Increasing rise in sea level could be an issue. While we do not have control over this, placing wells as far back as possible would be wise.
- As Tom Wilson, local geologist, pointed out at the Public Hearing on the Executive Summary on May 11, 2002, the presence of nitrates in the well is a good indication of human development because, unlike phosphorus, it does not occur naturally. Nitrates can also signal interference between leach field and water well. Septic leachate contains nitrates which render water unfit for infants if present in concentrations exceeding 100 part per million. Testing of wells would provide information on the human impact and baseline data to monitor the impact of growth.
- Leaking underground petroleum storage tanks, leachate from sand/salt storage piles and old dump sites are all common sources of groundwater pollution. Efforts to identify and remove these threats should be continued. Also, petrol chemical based manufacturing facilities can provide pollution sources to the groundwater system.

Because of the unpredictability of ground water, it is best to be conservative, discouraging industries which are heavily dependent on fresh water. Also, high yield wells can be quickly depleted in high use application in that fractured bedrock has a low storage coefficient.

In the Planning Committee's citizen survey, 74% of respondents thought it most important to protect the quantity of ground water, and 78% wanted to protect ground water quality.

Based on these considerations, the Comprehensive Planning Committee recommends the following:

- The protection of the ground water resources of the Town should be a major priority of the Town.
- The Town recognizes that the lack of predictable and reliable information on the source of drinking water and its vulnerability to contamination is a severe constraint to both residential and commercial growth.
- Testing should be encouraged of all private wells for nitrate and the array of chemicals for which lab tests are available.
- Since we cannot designate one area to be protected for future ground water supply, each individual septic system or any commercial enterprise will have to be carefully scrutinized for potential impact on groundwater quality or quantity. Both the Subdivision Ordinance and the Site Plan Review Ordinance provide that scrutiny.
- Require by ordinance that individual home-owners close to the coast prevent salt water intrusion by placing their wells, if they have the land, at least 200 feet back from the ocean, and 500 horizontal feet between them and other wells to avoid over pumping.
- Three maps will be created by a volunteer committee to assist future planning decisions.
- Require all new development to prove adequate, safe water supply.
- Require by ordinance greater set back on wells and septic in shoreland.
- Map any known underground petroleum storage tanks, storage piles and old dump sites still in existence
- Septic systems in the Shoreland Zone should be tested and, if needed, updated upon transfer of the properties.

4. Wetlands

Wetlands are some of the most sensitive and vulnerable habitats. Land use activities such as draining, filling, and waste disposal can significantly alter or destroy the value of these areas for wildlife. Land clearing or development in the

adjacent upland habitat, or "riparian" zone; can also degrade a wetland's value. Building on or too close to a wetland can affect water quality and quantify. The development and use of shorelines directly influences near shore water quality. Inadequate septic systems, storm water runoff (from paved areas or fertilized lawns, roads) may contaminate water flowing into the wetlands, which then discharge and contribute phosphate to our ponds. Groundwater, polluted by leaking underground fuel tanks, abandoned dumps, or failing septic systems, may seep into the wetlands, especially at discharge points.

Based on these considerations, the Comprehensive Planning Committee recommends the following:

- Because of their vulnerability and interconnection to other natural resources, the protection of wetlands is important.
- Laws available for wetland protection should be maximized.
- The Planning Board and the Code Enforcement Officer should refer to Map #3 - Panel 3 of U.S. Fish and Wildlife Gulf of Maine Program High Value Habitat and Other Significant Habitat when reviewing subdivisions, building permits or under the Site Review Ordinance.
- The Planning Board and Code Enforcement Officer should inform applicants of the need to apply for a permit from DEP if a proposed activity is in the vicinity of mapped wetlands.
- The Town should sponsor an educational program informing all residents of the impact of fertilizers on wetlands ponds should be prepared.

5. Important Natural Areas

The principal protection for Bremen's important natural areas is public education. Accordingly:

- The CEO should give the Fact Sheet to persons applying for building permits for sites located near rare botanical species. The Fact Sheet could be accompanied by a note indicating that rare plants are located on the property and describing the importance of avoiding their destruction.
- The Town should sponsor educational programs to inform residents about rare and natural features, including high value habitats.
- Pemaquid Watershed Association should be asked to hold workshops, in cooperation with IF&W and the Natural Areas Program, to teach the public and lake property owners how to identify rare plants, their value, and how to protect them.

In addition to public education, strict enforcement of the Shoreland Zoning Ordinance, along with a brochure given with building permits, would help with the protection of important natural areas. Similarly, the Town should request review

assistance from the Maine Natural Areas Program when development proposals would impact resources identified by the Program,

6. Wildlife Habitat

Road construction as well as residential and commercial development continues to fragment and block passages such as ridge tops, streams, and low wetlands along which animals have traveled for centuries. It is important, therefore, to keep enough areas open for wildlife corridors. Wildlife, their habitat, and even the identification and mapping of these resources are always changing. The corridors can be protected through use of Shoreland Zoning and consideration of information available in the Subdivision and Site Review processes.

In the Comprehensive Planning Committee's survey, 78% of respondents supported the protection of wildlife refuges as a purpose of land use regulations.

Bremen's 1988 Comprehensive Plan included the following recommendations, which the current Comprehensive Planning Committee continues to support:

- Require that all area with greater than 20% slope be retained as open space, to reduce housing density and, with natural vegetation left in place, preserve important wildlife habitat.
- Require the use of natural and cultivated vegetation to provide visual screening and noise control as appropriate

Additionally, the following recommendations are made to preserve Bremen's wildlife habitats:

- Review the Town's Shoreland Zoning Map at Town Hall to assure that areas which could be better protected are designated Resource Protection.
- Recommend to local land trusts the acquisition of high value habitat as identified by the Inland Fish and Wildlife and the US Fish and Wildlife Service.
- Encourage cooperation between the Code Enforcement Officer and the DEP in suggesting to people the need for permit under the Natural Resource Protection Act.
- Designate high value habitats and deeryards "Rural, Protection Areas," and place restrictions in Building Permit and Sub-Division Ordinances as appropriate to the habitat being protected.
- When amending Land Use ordinance, require 5 acre minimum lot size in mapped High value wildlife habitat areas.

7. Forestry and Agriculture Survey Results

In the Comprehensive Planning Committee, 47% of respondents thought it very

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important to protect agricultural land, and 66% thought the Town should encourage agricultural activity. The Committee recommends:

- Land that is classified in the Farm and Open Space law should be considered a Rural Non-Growth Area.
 - Enrollment in the Tree Growth Tax Program should be encouraged.
 - Agricultural land enrolled in the Farm and Open Space Tax program and woodlots enrolled in the Tree Growth Program should be zoned into a large minimum lot size of at least 5 acres.
-

6.0 LAKES AND PONDS WATER QUALITY ASSESSMENT

6.1 Introduction

This section reports on the condition of lakes and ponds in Bremen. The terms “lakes” and “ponds” are used interchangeably in this report. There are two ponds, Webber and McCurdy, which are entirely within Bremen and two larger ponds, Biscay and Pemaquid, which are partially within Bremen. DEP maintains several water quality assessment lists. Webber Pond and McCurdy Pond are not on any DEP list but both Biscay Pond and Pemaquid Pond are included on the *DEP Non-Point Source Priority Watershed List*. This list consists of 181 lakes that were selected from a total of 2314 significant lakes because the water quality is impaired or threatened due to non-point source pollution. Additionally, Biscay Pond is one of 79 Maine lakes on the *DEP Partially Supporting List* because water quality monitoring data indicate a statistically valid deteriorating trend. Note that the *DEP Partially Supporting List* also includes Duck Puddle Pond in Waldoboro which is important since this pond drains into Pemaquid Pond near the Bremen / Waldoboro line. The DEP also maintains a list of “Threatened Lakes” which will be submitted to Congress in the *1998-2000 Water Quality Assessment Report* but none of the lakes in Bremen are on this list.

Map #5 attached shows the Watershed Drainage Divides of the four Ponds in Bremen.

6.2 Water Quality Data

The water quality indicators used by DEP to determine the condition of lakes are as follows:

Secchi Disk Transparency is a measure of the water clarity. Readings are in meters. Since algae are the most abundant among factors that affect clarity, the Secchi disk reading indirectly measures the alga productivity. Readings in Maine vary from 0.4 to 20 meters. Seven meters or higher is considered good and 4 meters or less is considered not very clear. The average in Maine is 4.9 meters.

Total Phosphorus (TP) is critical to plant growth. As phosphorus increases the amount of algae increases. Ultimately too much growth in a pond will lead to oxygen depletion and the lakes rapid deterioration or eutrophication. Total Phosphorus in Maine lakes varies from 1 parts per billion (ppb) to 110 ppb, with the average being 14 ppb.

Water Quality Category is an indication of the susceptibility of a lake to increased phosphorus load combined with the amount of growth pressure. The Moderate/Sensitive category (which applies to all lakes/ponds in Bremen) means that a lake is experiencing intense growth pressure in the watershed and could be considered quite vulnerable. These lakes have a high potential for developing algae blooms because of significant summertime depletion of dissolved oxygen and/or large seasonal fluctuations in algae and nutrient levels. They are at high risk of significant water quality change with only a small increase in phosphorus

concentration.

Vulnerability Index or "F" is a measure of a lake's sensitivity to additional phosphorus. It is the amount of phosphorus (pounds) per year that, if added to a lake, will increase the concentration by 1 ppb.

Dissolved Oxygen (DO) is a measure of the dissolved oxygen in the water. Too little oxygen reduces the diversity and population of aquatic life. Water with less than 1-ppm oxygen is considered anoxic; less than 5 ppm is considered too stressful for most cold water fish. Anoxic conditions will release phosphorus from the bottom.

Temperature is related to the oxygen level. The higher the temperature the lower the dissolved oxygen. Some sensitive species cannot tolerate high temperatures. Dissolved oxygen is measured throughout the summer.

Flushing rate is the number of times the total volume of a lake is replaced per year. The average flushing rate is about 1 to 1.5 flushes per year for Maine lakes.

6.3 Current Status

The measure of the condition of a lake or pond is designated "attainment status". Attainment status is an indication of whether or not the water quality achieves the designated use goals set by federal and state classification statutes. Critical designated uses for Bremen Lakes are Swimming, Aquatic Life, and Trophic Stability. The following is a summary of the attainment status in these categories for each lake:

Swimming (SW)

All four lakes are fully supporting but threatened (FT). This status applies to a lake that has experienced either one recorded algae bloom or a secchi disc reading of less than 3 meters during the past decade, or there are indications that it may experience an algae bloom.

Aquatic Life (AL)

Biscay and Pemaquid are fully supporting but threatened (FT). The water quality supports sensitive salmonid fishery but exhibits a moderate to high level of oxygen impairment in the colder bottom.

McCurdy and Webber are fully supporting (FS). These ponds exhibit no dissolved oxygen impairment or the water level does not fluctuate to reduce the viability of fish or aquatic life.

Trophic Stability (TS)

Pemaquid, McCurdy, and Webber are fully supporting but threatened (FT). A combination of data is indicating productivity and potential for increase in total phosphorus due to human activity and the possibility of internal recycling of

phosphorus.

Biscay is partially supporting (PS) because there is a statistically valid deteriorating trend indicated by Secchi disc, dissolved oxygen and phosphorus modeling.

6.4 Summary of Monitoring Data

Monitoring activities vary from lake to lake. The information presented in this section is compiled from three sets of data:

1. *MIDAS Data Sheets* are prepared by DEP for each significant lake and pond in Maine. This source contains geographic and water quality information. The latest sampling data included was collected in 1999. The key data extracted from this source are Secchi Disk readings, total phosphorus, and late summer dissolved oxygen.
2. *Appendix B to the 1999 Volunteer Lake Monitoring Program Annual Report* provides the data collected and the water quality attainment status for each lake. It also identifies any DEP lists that a lake is included on.
3. Preliminary sections of *the 1998-2000 State of Maine Water Quality Assessment Report* which will be submitted to Congress pursuant to the Federal Water Pollution Control Act.

Following is a brief description of each lake and pond and a summary of the monitoring activities:

Biscay Pond

Biscay is a large lake, 358 acres, maximum depth 61 feet, mean depth 39 ft. Its total direct drainage area is 3.90 square miles and the direct drainage area in Bremen is 906 acres. Land use within the Bremen water shed area is residential. The western shore is half in Damariscotta and half in Bristol, with the southern tip in Bristol. Biscay Pond is visible from Biscay Road at the Bremen / Damariscotta line. It is managed for warm water and cold water fisheries. It flushes 3.12 times per year. The flushing rate is above the average of 1 to 1.5 times per year.

Secchi Disk readings have been taken continuously since 1974. The last reading was 1999. The minimum in these 25 years was 3.2, the mean, 5.2, and the maximum, 7.3 meters. This appears to be within the average range. The rough graph of data from 1974 through 1999 does not seem to indicate a trend.

Total Phosphorus measured near the surface is 7 pp. and measured near the bottom is 15 ppb. The phosphorus level appears to be at or below average. The *Vulnerability Index* is 17.97 lbs/ppb/year and the *Water Quality Category* is Moderate/Sensitive.

Dissolved Oxygen was measured in 1983, 1988 (4 times), 1990, and 1997 (twice). At 9 meters, the dissolved oxygen measures about 2.5 ppm, at 12 meters measures between 3.2 and 2.1 ppm, and at 16 meters measures between 2.1 and 1.2 ppm.

No trends are discerned from this data. According to the DEP, recent dissolved oxygen profiles show moderate dissolved oxygen depletion in deep areas of the lake. The potential for Phosphorus to leave the bottom sediments and become available to algae in the water column is moderate.

Comments: Biscay Pond is on the DEP Priority Watershed List and is rated only Partially Supporting (PS) for Trophic Stability. The causes for this status are “organic enrichment and dissolved oxygen” which are related to shoreline development. The moderate potential for phosphorus to leave the bottom may also be a factor. The magnitude of the problem is considered high and deserves further study with the DEP focused Lake Management Program.

Pemaquid Pond

Pemaquid Pond is a large lake covering about 1441 acres. The northern end is in Nobleboro and the southern tip is in Bremen. The Eastern Shore, from the southern tip almost up to the stream from Duck Puddle Pond, is in Bremen. The western shore, from the stream that runs from Pemaquid Pond into Biscay Pond up to the Nobleboro line, is in Damariscotta. Most of the northern end of Pemaquid Pond is in Nobleboro. Pemaquid Pond is visible from the Turner Road in Bremen. Turner Road is on a narrow causeway that separates the southern tip of Pemaquid Pond from McCurdy Pond and McCurdy Pond drains into Pemaquid Pond through a culvert under Turner Road.

The maximum depth is 19 meters and the mean depth is 6 meters. The watershed area is 9.38 square miles and the direct drainage area in Bremen is 1999 acres. Land use within the Bremen watershed area is residential. The flushing rate is 1.1 times per year, which is about average for lakes in Maine.

The water quality data used in this report was collected at a sampling station near the Turner Road (Station 1). There is a second sampling station at the northern end in Nobleboro (Station 2). There are significant differences in the water quality data between Station 1 and Station 2.

Secchi Disk readings vary from 3.3 to 7.7 meters with a mean of 5 meters and most readings are between 4 and 6 meters. This is in line with the average reading of 4.9 meters for all Maine Lakes and no trends are apparent from the data.

Total phosphorus readings range from 6 to 17 ppb. with an average of 10 ppb. This is within the average range for lakes in Maine. The *Vulnerability Index* is 30.45 lbs/ppb/year and the *Water Quality Category* is Moderate/Sensitive.

Dissolved oxygen readings were taken in 1981 and 1999 at about the same water temperatures. Based on 8 samples in 1981, dissolved oxygen was 6 ppm at 9 meters and 0.3 ppm at 12 meters. In 1999, based on 2 samples, dissolved oxygen was 5.1 ppm at 9 meters and 0.1 at 12 meters. DEP considers the water quality to

be average and notes that “recent dissolved oxygen profiles show low to moderate dissolved oxygen depletion in deep areas of the lake. The potential for Total Phosphorus to leave the bottom sediments and become available to algae in the water column is low to moderate”.

Comments: In addition to the DEP Priority Watershed List, Pemaquid Pond is also on the DEP list for Lakes Most at Risk for Stormwater Management. Pemaquid Pond is listed as threatened on almost all of the designated uses and, therefore, should be closely monitored and managed.

McCurdy Pond

McCurdy Pond covers about 205 acres and is entirely within Bremen. The maximum depth is 12 meters and the mean depth is 5 meters. The watershed area is 479 acres and land use in this area is residential. McCurdy is visible in Bremen from both the Turner Road and the Biscay Road. The flushing rate of 0.4 times per year is below average for Maine lakes and it is managed for both warm water and cold water fisheries.

Secchi Disk readings range from 3.3 to 7.8 meters with a mean of 6.2 meters. This is above the average 4.9 meters for Maine lakes.

Total Phosphorus readings range from 29 ppb near the bottom to 7 ppb near the surface with an average of 14 ppb. Except for the readings near the bottom, phosphorus seems to be within the average range. The *Vulnerability Index* is 9.61 lbs/ppb/year and the *Water Quality Category* is Moderate/Sensitive.

Dissolved Oxygen data is available for 1985 and 1998. Readings at 10 meters (near the bottom) are about 0.6 ppm at 15 ° C and about 0.2 ppm at 12 ° C. This very limited amount of data suggests that dissolved oxygen may be low.

Comments: Dissolved oxygen needs to be closely monitored since it may account for the threatened attainment ratings.

Webber Pond

Webber Pond is entirely in Bremen and covers 230 acres. It has a maximum depth of 9 meters, and a mean depth of 5 meters. The flushing rate is 1.2 times per year and the watershed area is 1494 acres. Land use within the Bremen watershed is residential.

Secchi Disk readings were recorded in 1982 and 1999. Readings range from 4.4 to 6.3 meters with a mean of 5.3 meters. This appears to be in the average range for Maine lakes.

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Total Phosphorus sample measurements were collected in 1983, 1986, 1990, and 1998. The average reading near the surface was 10 ppb and the average reading near the bottom was 15 ppb. These readings are average to low for Maine lakes. The Vulnerability Index is 17.33 lbs/ppb/year and the Water Quality Category is Moderate/Sensitive.

Dissolved Oxygen was measured at the same times as phosphorus. At a 4 meter depth, readings range from 7.7 ppm in 1983 to 4.9 ppm in 1998. The pond is too shallow for readings at the 9 meters depth, but at 8 meters readings were 0.1 ppm in 1983 and 0.2 ppm in 1998. These readings may be low enough to be limiting for cold water fish.

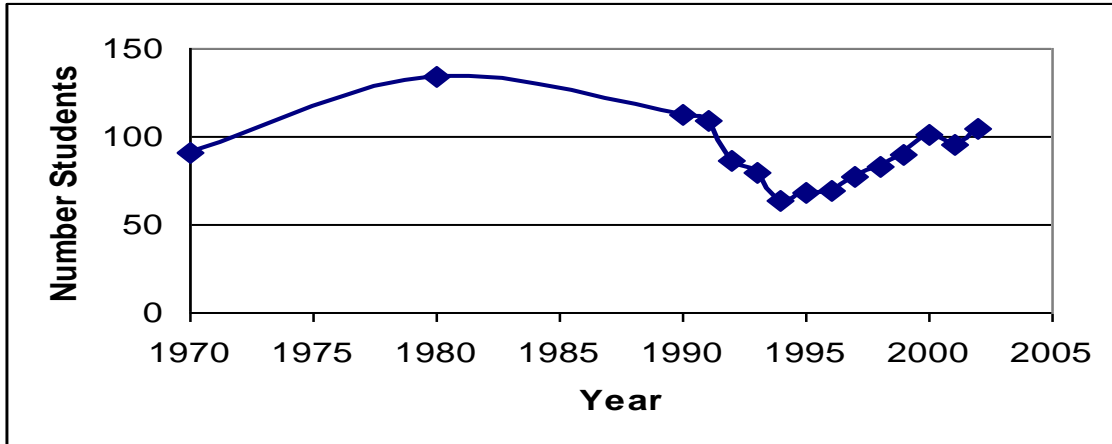
Comments: High phosphorus combined with low dissolved oxygen readings are causes for concern and should be closely monitored.

Table 6-1: Summary Table – Current Status Of Lakes And Ponds In Bremen

| POND | SECCHI DISK | | | TOTAL PHOSPHORUS | | | DISSOLVED OXYGEN | ATTAINMENT STATUS |
|-----------------|--|---------------------|------------------|---|-------------------------|---------------|--|--|
| | >7 meters – good <4 meters – not very clear 4.9 meters – State average | | | Range for Maine lakes - 1 to 110 ppb 14 ppb – State average | | | <1 ppm – anoxic 5 ppm – stressful for cold water fish | SW – Swimming AL – Aquatic life TS – Trophic stability |
| | Lowest (meter) | Highest (meters) | Mean (meters) | Near Top (ppb) | Near Bottom (ppb) | Mean (ppb) | Depth / Concentration (meters / ppm) | SW/AL/TS (see below) |
| Biscay | 3.2 | 7.3 | 5.2 | 7 | 15 | Not given | 9 / 2.5 12 / 2.1 - 3.2 16 / 1.2 - 2.1 9 / 6.0 - 5.1 | FT/FT/PS |
| Pemaquid | 3.3 | 7.7 | 5.0 | 10 | 6 | 17 | 12 / 0.1 - 0.3 | FT/FT/FT |
| McCurdy | 3.3 | 7.8 | 6.2 | 7 | 29 | 14 | 10 / 0.2 - 0.6 | FT/FS/FT |
| Webber | 4.4 | 6.3 | 5.3 | 10 | 15 | Not given | 4 / 4.9 - 7.7 8 / 0.1 - 0.2 | FT/FS/FT |

FS - Fully supports the designated use.
 FT – Fully supports the designated use but is threatened
 PS - Only partially supports the designated use.

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In 2000, the total of local assessed valuation of Bremen property was lower than in 1991 (\$93 million versus \$115 million: Table F-C-1). However, state assessed valuation for the Town was essentially unchanged from the beginning to the end of the decade. The difference between the local assessed value and the state assessed value for tax year 2001 is about \$12 million, with the state providing the higher assessment. Because this difference is increasing each year, Bremen may wish to complete a new "market value" assessment..... 28

Over the 1990s, Bremen's expenditures for education rose from \$576,813 to \$657,199, an increase of 14% for the decade. The number of K-12 students increased by only 10% (from 92 to 101.5), and thus cost-per-student rose during the decade. 28

Spending for town government more than doubled during the last decade, from \$51,000 to \$108,000. This increase parallels the availability of excise tax revenue, which is the principal source of local government funding. 28

Spending for roads and bridges has remained relatively constant over the past ten years. In fact, the budget for roads and bridges was higher in 1991 than in 2000. If

| | |
|--|----|
| one were to adjust for inflation, spending for roads and bridges has declined significantly. The town probably needs to increase its planned expenditures for roads and bridges in coming years. | 28 |
| Bremen owns relatively few assets. The total value of land, buildings and equipment, as of 2000, was \$795,000. It is unlikely, therefore, that future capital expenditure requirements will be very high. They will be limited primarily to maintaining roads and bridges and perhaps making improvement to the town landing. | 28 |
| The town's undesignated surplus reached \$529,000 in 1999 (an all-time high) and still stood at \$444,000 in 2000 (Table FC-7). This surplus was 36 percent of the budget, well above the state guidelines of 8.3 percent. Since 1991, the town has run an annual deficit five times and a surplus five times. The average annual surplus has been higher than the average annual deficit (each for five years), with the result that the total cumulative undesignated surplus has increased to its current healthy level. In the year 2000, the deficit of \$40,000 was somewhat artificial because the total cost of the new fire engine (\$150,000) was written off as an expense, while one-half of the cost of the fire engine was actually covered through \$75,000 in long-term debt. (Curiously, this accounting procedure is allowed under state law.) Without the cost of the fire engine, the town would have generated a surplus of \$110,000. | 28 |
| Under state law Title 30 M.R.S.A. section 5061, municipalities are allowed to borrow up to 15% of their assessed value. A commonly accepted rule of thumb or guideline is for municipalities not to exceed 5% of their assessed value in outstanding long-term debt. As of the end of 2000, Bremen's locally assessed value was \$93,000,000. Using 15% as a debt-ceiling limit, Bremen could borrow approximately \$14 million by State Law. Using the 5% guideline, the total amount that could be borrowed is approximately \$4,650,000. The actual outstanding debt is \$75,000 (the new fire engine), or less than one percent of assessed value. Bremen therefore has substantial borrowing power for the future. | 28 |
| The town of Bremen does share some of the outstanding long-term debt of Great Salt Bay School. However, this debt is not shown on Bremen's books. Rather, Bremen makes an annual payment of interest and principal to Great Salt Bay that is built into the tuition costs per student. | 29 |
| The total value of tax dollars lost due to open space exemptions (\$25,150) and tree growth (\$102,710). These lost tax revenues represent approximately thirteen percent (13%) of total property taxes for the year 2000. | 29 |
| With a healthy undesignated surplus, very little long term debt, and substantial borrowing power, the town of Bremen is in excellent financial condition. Bremen's tax mill rate remains one of the lowest among the surrounding towns. The Town's government should be commended for solid fiscal management. | 29 |
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| The State's natural resource information system is obviously in transition. There | |

are no descriptions available yet with the maps In the meantime, in order not to loose valuable information we will list the locally significant natural resource areas identified in the 1988 Plan. Even though the areas listed in Table 5-1 were not included in the listing received from the Natural Areas Program, they are valued and should be recognized as locally significant. These resources are still here; it is only the methods of recording and categorizing them that have changed. Most of this information is now mapped by the Beginning Habitat program, but it does not have the valuable narrative. The author of the '88 plan cites the following sources for the data:..... 36

- Maine State Planning Office formerly the Natural Areas Inventory, now in Department of Conservation, 36
- Maine Department of Inland Fish and Wildlife , 36
- Maine Department of Marine Resources, 36
- Maine Geological Survey—MGS, 36
- National Audubon Society-NAS..... 36

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Reason for Selection 36

Source 36

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To NAS 36

Bald Eagle Nest, Osprey Nest, A High use area..... 36

For marine birds, Bird Nesting Area, Tidal flats important to waterfowl, clam flats, mussel bar, Lobster, herring, striped bass fishery 36

NAS 36

Inland Fish and Wildlife..... 36

Department of Marine Resources 36

Crotch Island..... 36

Moderate use for marine bird nesting, common tern, common eider, black-backed gull, Seal haul out 36

Inland Fish and Wildlife,NAS State Planning Office 36

Jim's Island..... 36

Moderate use for marine bird nesting, osprey eiders, seal haul out, ledges 36

Inland Fish and Wildlife..... 36

Cow Island Ledges 36

Seal haul out, approximately 200 seals in 1987..... 36

NAS and Inland Fish and Wildlife 36

Cow Island..... 36

Virgin spruce forest 100-150 ft rocky beach, freshwater marsh 36

State Planning Office, NAS, Inland Fish and Wildlife 36

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Seal haul out, gulls, terns, cormorants, eider nesting, scallop beds 37

Inland Fish and Wildlife Department of Marine Resources 37

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3 Osprey Nests, Clam flats one of the highest use areas for marine birds, striped

| | |
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| bass, herring, scallop fishery (in 1987) | 37 |
| Inland Fish and Wildlife and Department of Marine Resources | 37 |
| Oar Island | 37 |
| Medium High use by marine birds. Tidal flats important for waterfowl, bird nesting, and herring fishery | 37 |
| Department of Marine Resources | 37 |
| Pitcher's Cove..... | 37 |
| Medium high use by marine birds. Important use by migratory birds..... | 37 |
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| Broad Cove (Heath Point to Waldoboro Line)..... | 37 |
| One of the highest use by marine birds in Fall, Medium high in Spring and Winter, Tidal flats important to waterfowl, clam flats, mussels. Views from Route 32 may be included in State Scenic Area Inventory. Seal haul out | 37 |
| Inland Fish and Wildlife Department of Marine Resources, State Planning Office | 37 |
| Mill Pond (Keene Neck) | 37 |
| Protected Salt Marsh, Thriving Marine Invertebrate population includes warm water species such as oyster drill, quahog, Medium High use marine birds Clam, marine work, alewife and smelt..... | 37 |
| State Planning Office NAS, Inland Fish and Wildlife | 37 |
| Greenland Cove..... | 37 |
| Medium High Use marine birds, Some seal haul out. Tidal flats important to waterfowl, some clam flats..... | 37 |
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| Medomak Bog (Muskrat Pond) | 37 |
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| Fresh water marash, some open water, Breeding black duck, beaver, swamp sparrow, bittern, virgina rail, long-bill marsh wren. Roost for black crowned night heron. Colonial bird nesting area. Important use by migratory birds..... | 37 |
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6.5 Maine Laws Related to Protection of Lakes and Ponds

Following is a summary of laws that apply to "Great Ponds". All four lakes/ponds in Bremen are classified as Great Ponds under the law.

Public Access – "No person on foot shall be denied access or egress over unimproved land to a great pond." Maine Revised Statutes Annotated (MRSA) 17 MRSA§ 3860.

Water Quality Classification - All Great Ponds are classified GPA which means that "... Waters shall be of such quality that they are suitable for the designated uses of drinking water after disinfecting, recreation in and on the water, fishing, industrial process and cooling water supply, hydroelectric power generation and navigation and as habitat for fish and other aquatic life" 38 MRSA §465-A

State's Natural Resources Protection Act - "The following activities will require a permit from the DEP if the activity is located in, on or over any protected natural resources or is located adjacent to and is operated in such a manner that material or soil may be washed into ... (in this case) ... a great pond."

- A. Dredging, bulldozing, removing or displacing soil, sand vegetation or other materials.
- B. Draining or otherwise dewatering.
- C. Filling, including adding sand or other material to a sand dune.
- D. Any construction, repair or alteration of any permanent structure.

These are standards and procedures, but the point is that some permit or review from the DEP is required for activities that may have an impact on the water.
(38MRSA§480 A-Y)

Mandatory Shoreland Zoning Act (38 MRSA §§435-449) -. Any activity within 250 of the shore of a great pond needs to be reviewed by the local code enforcement officer. If the entire 250 feet has been designated by the Town as a Resource Protection Zone, then new construction is probably prohibited. These and other activities, including agriculture, aquaculture, permanent docks, non-commercial campsites, filling or earthmoving, require a permit. There are also performance standards for clearing and forestry. In summary, the local code enforcement officer should perform a review before any activity is undertaken in the 250 shoreland area.

Prohibited Activities - The Department of Inland Fish and Wildlife regulates licenses and, upon petition, can prohibit watercraft of certain horsepower. The Commissioner can restrict the use of "airmobiles" and declare certain areas of lakes off limits entirely for watercraft. (12 MRSA 7792).

Phosphorus Limitations Also found in the water quality section of DEP's laws is a limitation on how much phosphorus can be in household detergent: "After July 1 1993, a person may not sell or offer for sale in this State a household laundry detergent that contains more than 0. 5% phosphorus by weight expressed as elemental phosphorus" (38MRSA§419,sub-§I C-1).

Growth Management Act - The Act specifies that the Implementation Program of a Comprehensive Plan should not only "Protect, maintain, and, when warranted, improve the water quality of each water body " but also "ensure that the water quality will be protected from long-term and cumulative increases in phosphorus from development in great pond watershed." It also requires that the program "shall develop management goals for great ponds pertaining to the type of shoreline character, intensity of surface water use, protection of resources of state significance, and type of public access appropriate for the intensity of use of great ponds within a municipality's jurisdiction "

Authorization for Creation of Watershed Districts - This statute authorizes the formation of watershed districts and gives them certain powers. They may plan, sponsor research, and enter agreements with municipalities to administer the land use ordinances of that municipality for protecting a water body. They may assess taxes on waterfront property to be collected by the municipality based on the percentage of land in the district. (38 MRSA 2001 and 2010)

Funds - There is a *Lake Environmental Protection Fund*, which can be used to compensate towns for legal expenses incurred in enforcement of local land use laws and ordinances affecting great ponds. The state shall provide 75% of the expenses with 25% coming from the town. (38 MRSA §3569) There is also a *Lake Restoration and Protection Fund* . This fund can be used to reimburse towns up to 50% of costs incurred in a lake restoration or protection project. Technical assistance can be reimbursed up to 100%. This is a non-lapsing fund and Linda Bacon of DEP advises that there is currently no money in this fund.

6.6 Bremen's Lakes and Ponds are Phosphorus Limited

The water quality of a lake depends upon what happens in the surrounding lands that drain into it – i.e., in the "watershed". The boundary line of a watershed traverses the highest points of land in an area. Maine's DEP has provided the Comprehensive Planning Committee with the data on the percentage of the watershed in Bremen and each of the surrounding municipalities. These data are shown in Table 6-2.

Many Maine lakes are threatened by rising phosphorus levels. Increased phosphorus causes algae to multiply, oxygen levels to fall, fish to die, and water to turn green. In fact, DEP's lake experts tell us that phosphorus loading is the essential factor affecting the lakes. Another way of saying this is that the "carrying capacity" of a lake is determined by the amount of phosphorus a lake can take in one year without causing algae growth.

Sources of phosphorus in lakes include both those coming into a lake from the watershed (external) and those being released from lake sediments that were deposited on the bottom during earlier times (internal).

Table 6-2: Percentage Distribution of Lake Watersheds in Bremen and Adjoining Towns

| Lake Name | Town | % of Direct Drainage Area |
|------------------|--------------|----------------------------------|
| Biscay Pond | Bremen | 36% |
| | Bristol | 26% |
| | Damariscotta | 37.7% |
| McCurdy | Bremen | 100% |
| Pemaquid Pond | Bremen | 33% |
| | Damariscotta | 28.6% |
| | Nobleboro | 31% |
| | Waldoboro | 7% |
| Webber Pond | Bremen | 89% |
| | Bristol | 11 % |

Jeff Dennis at Maine DEP has worked out a method to calculate the amount of phosphorus a lake can tolerate before developing an algae bloom. The method is published in Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development (September 1992) The per acre phosphorus allocation can be calculated from the data provided. The data and the results are displayed in the Table 6-3.

Table 6-3: Phosphorus Allocations for Bremen Ponds

| Pond | Protection Level (1) | Phosphorus Coefficient (2) | Acceptable Increase in Phosphorus | Future Area to Be Developed | Per Acre Phosphorus Allocation (3) |
|--------------------|----------------------|----------------------------|-----------------------------------|-----------------------------|------------------------------------|
| Biscay Pond | High | 17.97lbs/ac/yr | .75ppb | 193 | 0.070 |
| McCurdy | High | 9.61 | .75 | 108 | 0.067 |
| Pemaquid | High | 30.45 | 0.75 | 425 | 0.054 |
| Webber | High | 17.33 | 0.75 | 317 | 0.041 |

- 1- The level of protection is a policy decision, it is assumed High, when cold water fishery is involved. It can be Medium level of protection that allows 1-ppb phosphorus increase.
- 2- Indicates the amount of additional phosphorus that, if exported from the watershed to the lake, will produce a 1 part per billion (ppb) increase in the lake's phosphorus concentration (lbs/ppb/year)
- 3- The amount of phosphorus each developed acre is allowed to export without violating water quality.

External sources of phosphorus introduction in lakes include:

Atmospheric phosphorus which accumulates from pollution and washes out with precipitation. Most of it seeps into the ground in forested areas and becomes bound up in vegetation and soil particles which, when vegetation is removed, leads to

Erosion exposes and carries soils, especially from camp, town and state roads, can be a major source.

Development: The effects are subtle, because lakes respond slowly to new phosphorus input from the watershed. But each new house lot, section of road, or driveway adds its incremental share, both during construction and then afterwards from lawns, pet wastes, gardens, driveways and roofs.

Old septic systems are a problem, which is hard to estimate. In general, any old leach field or cesspool which was built before 1972 (when the modern Plumbing Code based upon soil types came into effect) can be a steady source of phosphorus and other contaminants. This is especially true if the systems near the water, seasonally flooded, or the property has been converted to year round use resulting in substantially higher loading.

Factors that effect internal sources are natural features, such shallowness, shape, and slow drainage, or historical land uses in the watershed. Since there is very little we can do about these factors we should concentrate on the external sources and their means of control.

6.7 Conclusions and Recommendations

Based on the information presented here, we derive the following conclusions:

- The four ponds within the boundaries of Bremen are invaluable natural resources. They provide year-round and seasonal homes, and recreation for the entire community.
- The water quality of all the lakes is threatened to some degree by increased human habitation.

- Phosphorus is a critical element affecting water quality. It controls the amount of algae growing in the water which in turn controls the amount of dissolved oxygen in the deep lakes.
- All the lakes are considered "Moderate/Sensitive" water quality – which, according to DEP means they are "experiencing intense growth pressure in the watershed and are quite vulnerable to the addition of phosphorus.
- DEP can calculate how much phosphorus a lake can tolerate. The data indicates that the vulnerability to phosphorus is in order of decreasing vulnerability: McCurdy, Webber, Biscay and Pemaquid.
- The key to maintaining water quality of the ponds is preventing introduction of nutrients, especially the most limiting nutrient, phosphorus. The most threatening sources of phosphorus are from roads and development.
- The watershed of 2 of the four ponds is shared with neighboring towns. Bremen, Damariscotta, and Bristol share Biscay Pond's watershed in roughly three parts; Pemaquid's watershed is also roughly three parts by Bremen, Damariscotta, and Nobleboro (7% of the watershed is in Waldoboro.) McCurdy Pond is the only one 100% in Bremen. Webber has 10% of its watershed in Bristol.
- Bremen alone cannot ensure the health of the ponds. Success will require the concerted action of all the communities, and the Pemaquid Watershed Association, which share the direct watershed and shorelines of the ponds.

There are a number of options that can be considered for limiting the introduction of new sources of phosphorus into lakes. For example, project size and density can be limited by minimizing roads and paved surfaces and by retaining existing vegetation, which captures and treats storm water runoff can reduce phosphorus export. Number of lots allowed to be developed in each watershed can be limited by calculating the number of lots that can be developed each year using the phosphorus coefficient, allocation and soil types specific to each lake. Active control measures, such as infiltration systems (similar to septic systems, which channel rainfall into absorbent soil beds) and wet ponds (which temporarily capture and hold run-off, allowing phosphorus to settle out) can be pursued. Active measures such as these require continual maintenance to remain effective. Further, a phosphorus allocation budget can be prepared for each lake's watershed. Then the phosphorus export is calculated for each development with performance standards to limit the export to the allowable per acre allocation. DEP has a technical guide for calculating the per-acre phosphorus export for each proposal. This approach is flexible. It provides developers with a choice of control measures to bring projects within the Town's phosphorus goals.

Town ordinances can be enacted to control new sources of phosphorus introduction. Phosphorus control standards represent a new type of local regulation. A simple form of would be to create a new town wide phosphorus ordinance to apply to any development in a watershed; or phosphorus control provisions can be integrated into an existing ordinances. There currently are model ordinances for:

- Free Standing Phosphorus ordinance, appropriate to towns without zoning or site plan review;
- Phosphorus Zoning Overlay District for Shoreland Zoning Amendments – (limitation is that it doesn't cover the watershed) for Site Plan Review Ordinance, if used in conjunction with subdivision can provide town wide phosphorus control--- except it doesn't cover single family homes; and
- Minimum Road Standards Ordinance This addresses the specific impact of road construction on lake water quality. This would apply to both new public and private roads, and to the upgrading of private roads to meet town acceptance.

To control phosphorus loading of lakes from currently existing sources, there also are a variety of options that can be pursued. A logical starting point is to inventory the major sources of phosphorus export in the watershed. Teams of volunteers could be organized to go out during a rainstorm to identify and trace upstream the sources of rivulets and streams. Streams brown with silt will lead uphill to the major offenders. The Town can work with individual landowners to install corrective measures. These may range from a simple 25-foot wooded buffer strip to repairing ditches and roads; all the way to installing engineered controls such as wet ponds. The Town can also toughen alteration permits. Homeowners will come to Town office seeking building permits for alteration. The town could require stricter standards. For example, a town can require a more effective septic system, or that the entire parcel, not just the improvements to meet town phosphorus goals.

The Town can also monitor easements and controls. Once a town adopts a phosphorus control ordinance, the town planning board will find itself negotiating agreements with developers, and homeowners for easements, deed restriction, wet ponds, and a variety of other controls as essential conditions for permit approvals. Because poorly maintained roads and ditches can erode and pour silt and phosphorus directly into lakes, the Town should strictly maintain its roads and ditches.. Guidelines for road and ditch maintenance are available from DEP, DOT, or the Soil and Water Conservation Districts. The Town may institute a program of inspecting septic systems, either with its CEO or with volunteers. Septic systems are a significant source of phosphorus pollution. Many cottages have old systems installed to less stringent specifications than those installed now. A septic system even if installed to the latest standards, still may malfunction or fail if it is not pumped out regularly.

Finally, public education is an important tool for controlling existing phosphorus sources. Town residents do not want to pollute their lakes. Pollution usually stems from ignorance and carelessness. Town education efforts can show people how their actions even if seemingly insignificant or far away, can affect lake water quality.

The Comprehensive Planning Committee recommends that Bremen commit itself to protecting the water quality of all lakes and ponds. This will require collaboration with other towns and regional organizations. Specific recommendations include:

- Adopt and apply DEP's manual of standards for erosion and sedimentation control to all Town-owned and subdivision roads and provide training for local officials in its use.
- Study phosphorus loading in depth, in consultation with DEP. If deemed to be needed based on the results of this study, Bremen should prepare and recommend for adoption phosphorus control ordinances or provisions to be incorporated into site review and subdivision and building ordinances.
- Require code enforcement inspection at critical times to ascertain compliance.
- Engage local officials in other watershed towns in making lake protection plans, regulations, and activities consistent. Report annually to the town on progress.
- Increase code enforcement hours to half time and more if needed, through a combination of increased fees and town support for the purpose of:
 - Reviewing development proposals,
 - Inspecting permitted sites and activities including logging
 - Reconnoitering the watershed periodically to document conditions and identify problems
 - Educating citizens, contractors, and permit applicants on practices to minimize phosphorus loading.

7.0 MARINE RESOURCES

7.1 Data Related to Bremen's Marine Industries

- *Shell fish*

Table 7-1
Shellfish Landings in Bremen, by Year

| | |
|-------|---------------|
| 1997* | 87,489 lbs. |
| 1998 | ~222,000 lbs. |
| 1999 | 234,999 lbs. |
| 2000 | 199,167 lbs |
| 2001 | 200,494 lbs |

*. Prior to 1997 landings documented by county

** Source: Clam landings data provided by Alison Sirois, DMR
Biomonitoring and Statistics Division

- *Shellfish Closings:*

Please note that closings are subject to change. This information has been provided by Jan Barter from Department of Marine Resources. Monitoring and investigations are ongoing.

Bremen Long Island-initially closed due to lack of survey data. It is sampled 6 times per year between April and October. There is a problem between Bremen Long Island and Palmer Island, with evidence of failing septic systems and breakouts, and uncertain reports about a possible overboard discharge system. Jan Barter recommends that the Town work with DMR to clean up the problem disposal systems so the entire coast of Bremen Long Island could be opened to clamming.

Keene Narrows and Oar Island- Much of the Narrows and the West side of Oar Island is open. The North end of Oars Island has a history of closure due to gray water.

Muscongus Harbor- closed since 1989 due to overboard discharge.

- *Recently Opened Sites:*

Greenland Cove –5/17/00, formerly closed due to overboard discharge (OBD)

N end of Hog Island opened 5/17/00 formerly closed due to OBD.

W. Branch opened 5/17/00 formerly closed due to e.coli related summer residences

Source: Jan Barter

- *Shell Fish License Holders*

32 full time adults

10 students

- **Groundfish**

Commercial vessels: confidential, can only get county information

No dealers

3-4 fisherman may have kept their permits in case ground fish come back

- **Lobster**

- *Number of Licenses: Class I-11; Class II-24; Class III-6, Student-4; Over 70-3; Under 18-1; Apprentice-1; Recreational-1*
- Landings ~ While local landing data is not given out officially by Department of Marine Resources by request of the lobstermen, Bremen estimates ~3,000,000 lbs at estimated value of \$6 million.
- Town has 4 buying stations plus one lobster pound- Bremen Coop.

- **Other Markets**

- Scallops
- Urchins ~ 300,000 lbs.

- **Aquaculture**

- Number of operations-2- Pemaquid Oyster Company, Muscongus Bay
- There are no aquaculture leases.
- There have been no conflicts with natural harvesters as far as we know.

7.2 Marine Water Quality

A sampling program was begun under guidance of the University of Maine Cooperative Extension by the Friends of Medomak Watershed in 2001. Results were analyzed by Maine DEP. The Medomak Estuary was monitored at 8 different sites, and 70 samples were taken for dissolved oxygen profiles, salinity, temperature, secchi disk readings and samples for chlorophyll a. Results from June/July 2002 showed that Average Dissolved Oxygen in the estuary was between 80% and 100% ; a healthy estuary has a dissolved oxygen percent saturation above 70-75%.

Samples gathered on 5 dates in June and July, 2001 at 6 Medomak River sites were analyzed for Fecal Coliform colonies. The Geometric mean varied from 2.79 to 30.51 colonies per 100 ml of sample. UMCE standards are:

0-14 – consider these levels “as naturally occurring”, no follow up action
>14-<35- may indicate higher than normal levels, minimal impairment, Continue monitoring

For specific locations, results are shown in Table 7-2:

Table 7-2
Geometric Mean of Fecal Coliform from the Medomak River: June/July 2002.

| Number | Location | <i>Mean level of Fecal Coliform</i> |
|---------------|---------------------|--|
| 000 | Mill Street Bridge | 21.81 |
| 010 | Elm Street Culvert | 30.51 |
| 011 | Route 1 Bridge | 10.56 |
| 012 | Cross Street Bridge | 12.64 |
| 013 | Trail | 16.9 |
| 014 | Wagner Bridge | 2.79 |

According to the standards, the Medomak River, at least at these sampling points is not impaired or even threatened by fecal coliform.

Bremen's Harbormaster, reports that the Clam committee has been active in getting State to take care of overboard and malfunctioning systems, so more flats are open now. Jan Bartel of DMR reports that they sample 6x year between April and October.

Ron Aho regional shellfish biologist with DMR reports that generally, they survey within 250 feet of the shore.. Streams that drain into the beds are also surveyed. The major source of fecal coliform is failing or non-functioning septic systems. There are some problems of failing septic systems breaking out on Bremen Long Island

When asked about what are other threats to the clams, Mr. Aho listed excessive fertilizers, pesticides, and sediments from residential over-development . However, DMR only tests only for fecal pollution-, because the purpose of government controls are to protect the public health rather than the propagation and production of clams or mussels

Where there are failing septic systems nitrate export would be considerable. This could lead to algae blooms and dying fish, as it did in 1988 in Middle Bay in Brunswick.

Ron Aho, says that he suspects the level of knowledge about the impact of land use activities in the "watershed" of shell fish beds are not to the same level of sophistication as they are on ponds. Asked about chemicals and their impact on shellfish beds, he said that occasionally when they suspect it, there are tests for heavy metals. But no such tests have been performed on the discharges (if any) from Maine Cat.

He thought the Clam Conservation Ordinance, and programs, such as transferring seed clams to less dense areas and the limitations to licenses are working quite well

There is a volunteer warden program, but he felt that higher paid shellfish wardens would improve the compliance with existing laws.

He furthermore thought that if the shellfish management rules were adequately enforced coupled with the enforcement of the Shoreland Zoning standards, the shellfish beds would be guaranteed a higher level of protection.

7.3 Ports and Harbors

There are 6 areas officially considered Harbors by the Harbor Ordinance:

- Hockomock Channel/Keen Narrows Area
- Broad Cove
- Greenland Cove
- Muscongus
- Eastside Bremen Long Island
- Outer by South and East of Hog Island

A commercial marina is located at the end of Medomak Road. It provides moorings, access to the islands, and other services such as oyster hatchery, lobster dealerships, urchin dealings, fuel, etc.

In 2001, Bremen issued 1228 licenses for boat moorings.

7.4 Existing Laws and Ordinances Related to Marine Resources

- National Shellfish sanitation Program, US Food and Drug Administration, 1990, requires that shell fish beds be closed when the areas are subject to human or animal fecal matter in amounts that in the judgement of the State Department of Marine Resources (DMR) may present actual or potential hazards to the public health. In Maine, DMR inspects the shore in a sanitary survey. If there is any sanitary waste discharge, DMR must close the area because, even if the discharge is treated, there is no assurance of consistency of the quality of the discharge. An area can be opened when it meets the prescribed standards upon sampling according to protocol set out by FDA.

- **Clam Conservation Ordinance**

The purpose of the Ordinance is to insure the protection and optimum utilization of resources within Town limits

Provisions include:

- Licensing
- Limiting the number of clam harvesters
- Imposing clam harvesting time limits
- Restricting clam harvesting areas
- Limiting the minimum size of clams taken

The Ordinance is administered by a paid Shellfish Warden and Deputy Warden under the guidance of the Clam Conservation Committee of three members appointed by the Selectmen to three-year terms. The Committee works with DMR and the Bremen Board of Selectmen in setting regulations and standards for the taking of clams. The number of licenses issued is determined annually by the Selectmen with the advice of the Conservation Committee. Licenses are issued on a preference basis and fee specified in the ordinance.

- **Shoreland Zoning**

Changes in the last 5 years to the State Shoreland Zoning Statute encourages commercial fishing and other water dependent commercial activities by creating a Commercial Fisheries/Maritime Activities (CFMA) District in the Shoreland Zone.

Bremen has designated 2 CFMA areas along the shore between Medomak road and Town Landing, and another one at the end of Muscungus Rd and Muscungus Neck Road. In these areas the existing predominant pattern of development is consistent with the allowed uses for this district. Uses allowed include, but are not limited to aquaculture, residential, piers, docks, wharves, marinas, filling, and earth-moving. All uses require a Planning Board permit. The Planning Board considers:

1. Shelter from prevailing winds and waves;
2. Slope of the land within 250 feet, horizontal distance, of the shoreline;
3. Depth of the water within 150 feet of the shoreline
4. Available support facilities including utilities and transportation facilities; and
5. Compatibility with adjacent upland uses.

The minimum lot area is 10,000-sq. ft, and the minimum shore frontage and lot width are 50 ft, all considerably less than in other Districts.

- **Harbor Ordinance**

The purpose of the ordinance is to provide for the just and orderly operation of marine activities in the Harbors. It is modeled on the State's ordinance.

There is a three member Harbor Committee elected at the Annual Meeting. The Harbor Master is appointed annually by the Selectmen; his salary is set at Town Meeting.

Duties assigned by Ordinance:

- Setting of harbor limits, by the Selectmen upon the recommendation of the Harbor Committee and the Harbor Master
- Enforce speed limit- speed not exceed 5 knots while operating in a mooring area

- Assign, approve and keep records written records of mooring placements
- Collect basic information on each mooring and record
- Existing mooring locations shall be registered yearly
- Mooring location assignments shall be guided by a Mooring Plan that must be adopted by the Harbor Master.

Priority System for assigning moorings

There is a 14-point priority system for assigning moorings. Shorefront priority owners and "grandfathered" mooring owners hold the first two positions. After that it is commercial, residential, single and multiple, on down to non-resident pleasure watercraft owners, which is number 10. Non-resident commercial multiple moorings is number 13 and "All others" is number 14.

Abandoned moorings will be picked up, reassigned, and the costs of removal charged to registered owners.

Bremen's Harbor Master reports that there is a long waiting list for non-fishermen.

- **Aquaculture Licenses**

Traditionally, the Commissioner of DMR has granted aquaculture licenses. A new law passed in 1999 gives jurisdiction to towns to act jointly with the State in issuing licenses for aquaculture within the intertidal zone. Only towns that have a shellfish ordinance have this authority.

7.5 The Access issue:

Lobstermen, shellfish harvesters, and ground fishing require different access. Lobstermen need to keep a boat at a mooring. For that purpose, the Town landing is good. Boats are only supposed to be tied up to floats at Town landing for 2 hours, but that rule is not consistently enforced.

Shellfish harvesters do have problems finding enough parking spaces near to launching sites. For example, parking along Storer Road is very limited near the launching ramp. Town landing usually has parking but launching is poor there. While the topography is not ideal, building a launching facility at Town Landing might be a good idea. There are concerns that out of town users might usurp the parking spots. A monitored sticker system could remedy that problem.

The Harbor Master reports seeing a 75% increase in demand in moorings by fishermen, not recreational. He does not think there is too much conflict with summer people and clammers. He does think kayaks are a problem for lobstermen, who sometimes cannot see them.

While the access problem, or conflict, does not seem to be too serious right

now, complaints about noise and other nuisance behavior are increasing.

As Bremen becomes more populated there is increased likelihood of misunderstandings leading to animosity between natural harvesters and new residents, who build large expensive homes in traditional coastal access points. There is also considerable support for commercial fishermen. It is the very authenticity of a working fishing community which makes Bremen such an attractive community for year round retired living. The conflict, should it arise, could be mitigated or avoided by a dialogue facilitated by an objective, articulate, knowledgeable person respected by both sides.

7.6 Citizen Survey Results

71% of all respondents wished to encourage Marine/Fishing Commercial activity.

Support for more boat/parking access for commercial fishermen or residents was lukewarm for both or neither. 50% said yes for Bremen commercial fishermen and 53% for Bremen residents (not necessarily fishermen). 19% and 23% would be willing to pay more taxes to provide more access for fishermen and residents respectively.

There was a slight difference between residents and non-residents. 49% of residents and 53% of non-residents support more boat/parking access for Bremen fishermen, 50% residents, and 56% non-residents support more access for Bremen residents.

11% of residents and 25% of non-residents are willing to pay more taxes to provide boat/parking access for fishermen; 13% residents and 31% non-residents are willing to pay more taxes for more access for Bremen residents.

7.7 Conclusions and Recommendations

In Bremen's 1988 Comprehensive Plan, it is stated that: "There is no other natural resource in Bremen more important than the sea. Historically, Bremen's location at the junction of the Medomak River Estuary with Muscungus Bay has provided the major source of livelihood for its residents. More recently, our seacoast has been an attraction for new residents involved in other occupations, both in and out of town, seasonal residents and tourists an ever-increasing retired population. The abundant salt water fishery continues to be an important source of income from the harvesting and marketing of sea products." Fifteen years later, this viewpoint still holds true. Based on information gathered on marine resources, we conclude the following:

1. Our coastal location and frontage are key natural resource assets of this Town.
2. Bremen has current Clam Conservation, Harbor Management, and Shoreland Zoning ordinances.
3. Pure water quality is essential to all fishing
4. Threats to shellfish beds come mostly from so called non-point sources.

Recent efforts eliminating overboard discharges and replacing failing or malfunctioning septic systems have lowered the discharge of septic wastes into shell fish beds, opening more valuable beds for harvesting

5. Other than non-point source pollution, the primary threat to shellfish beds is oil spills from boats. Town residents believe that a large oil spill could be catastrophic to shellfish beds, and that Maine DEP does not have the capability to respond quickly enough to prevent damage should such a spill occur.
6. Enforcement of all ordinances including Shoreland zoning would improve the water quality, prevent closures, improve the productivity and value of the fisheries.
7. Bremen has a shortage of good boat-launching ramps with convenient and safe parking.

Recommendations:

1. Improve and expand Town Landing.
2. There should be an inventory of all existing access points.
3. Existing access points need to be safeguarded, or protected.
4. Maximize the provisions of Shoreland Zoning by designating and stringently enforcing the provisions of the Commercial Fisheries and Maritime Activities Zone.
5. Designating a Shell Fish Watershed Protection District, where land use standards are more stringently enforced to prevent Non-Point Source Pollution. Opportunities for funding improved launching and parking facilities should be explored locally or on a regional basis.
6. Improve the enforcement of Shoreland Zoning, Clam Conservation and Harbor Management Ordinances
7. The Town should institute an oil spill response capability.

8.0 HISTORY AND ARCHEOLOGY

Bremen was incorporated on February 19, 1828 after separating from the town of Bristol. Bremen's population was 770 when the town formed, and it increased over the next 30 years to more than 900. It is easy to understand why early settlers were attracted to the town. There was an abundance of birds, animals, fish and timber. The game was used both as food source and for trade, the timber for building and trade. Beaver, otter, deer, bear, wolves, and moose were found here in great numbers. Along the coast, cod and haddock were caught and eaten, salted and kept for winter or sent to other areas in the country or abroad. Easily caught in the rivers in spring, were salmon, shad and alewives, which could be used as food or trade.

Today, Bremen remains a small coastal town. Its population of full time residents, numbering less than 800, still considers fishing as its main industry. But now lobsters and clams, not haddock and cod, constitute the main catch. The town's greatest asset continues to be the beauty of its natural resources. Coastal salt-water coves and islands abound, and fresh water ponds and lakes are available for fishing and recreation. Many long standing and recent residents share the same vision of keeping an affordable rural fishing community.

8.1 Town History

Before its incorporation as a town in 1828, the 25 square mile tract of waterfront timberland, which was to become known as Bremen, comprised the northeastern corner of the town of Bristol, on the Pemaquid peninsula. Pemaquid, itself, was first visited by members of the Popham Colony in 1607. English fishermen camped, dried fish, and repaired their vessels on its shores, trading with the Indians living in the area. It was settled on a more or less permanent basis in 1625, and a thriving seaport developed. During the next 100 years, however, this settlement was repeatedly devastated by attacks from Indians and their French allies. By the mid-18th century, these conflicts had subsided and settlement was on the rise throughout the peninsula.

The Brown/Goulds were the first to settle on Loud's Island and Broad Cove. The Hilton's were their descendants .. Other families migrating from Massachusetts and other parts of Maine, prior to the War of Independence, included Burns, Weston, Keene, Collamore, Kimball, Martin, Morton, Littlest, Osier, Rhodes, Farrows, Dockendorff, Johnston, McLean and Studley.

Broad Cove Parish was organized in 1772. A meeting house was built on the shore at Greenland Cove, standing until 1824, when it was razed and rebuilt on its present site as the Union Church, on the Waldoboro Road. The Society of Friends was active in the area after the War of Independence, but dwindled to extinction in the early part of the 19th century.

Dwellings were built along the shore in the early days, as travel was mostly conducted by water. As land was cleared and larger farms were built away from the water, roughly defined paths became roadways. By the middle of the 19th Century, farmsteads were sprawled evenly down the road from Waldoboro to Muscungos along

the eastern side of the ridge; down Storer, Heath, Keene Neck and Fogler Roads with greater density at Medomak and Muscongus. Less populated stretches extended along the Nobleboro, Turner, and Biscay Roads.

Livelihoods in the early days centered on fishing, lumbering, and shipbuilding. Farming included raising of sheep, dairy cows, poultry, apples, corn, potatoes and hay, all on a subsistence level, supplying households with their annual needs. Agriculture did not become important commercially until the middle of the 19th Century, when improved transportation facilitated shipping of apples, eggs, milk, and chickens to other areas. Harvesting of forest products was a profitable industry from the earliest settlement. Cutting of logs, spars, timber boards, clapboards, shingles and firewood kept much of the populace and four saw mills busy. There were the Broad Cove saw and Grist Mill on the Western Branch, the Glidden Mill between Pemaquid and Biscay Ponds, the Greenland Cove Saw and Grist Mill, and the Webber Saw and Grist Mill in Muscongus. Although the Webber Mill survived in to the 20th Century, the others were discontinued many years earlier.

When Bremen was incorporated, there were four school districts. Later two more were added, and by the end of the 19th Century, 10 schoolhouses served Bremen children: the Broad Cove School, the Deacon Hilton School, the Medomak School, the Keene Neck School, the Weston School, the Biscay School, the Fogler-Lairer School, the Muscongus School and two schools on Bremen Long Island. Taxes were collected by each school district. The schools remained open according to the number of pupils attending. The number of school houses remaining open dwindled into the 20th Century until a consolidated school was built in the 1950's.

8.2 Island Settlements

The islands were settled as early as the mainland. Hog Island was the first home of the Keene family, before they moved ashore in the 18th Century. During the 19th Century, the island was divided among the Keene heirs and others, but was uninhabited. A hotel was built on the northern end toward the end of the century. In the early 20th Century, the entire island passed into the hands of the Todd family who gave it to the National Audubon Society. Today it is maintained as an Audubon Nature Camp.

Bremen Long Island was settled in the 18th Century. Many families lived on the island, engaged in fishing and shipbuilding. These families whose names included Carter, Prior, Collamore, Teele, Willey, Morse, Simmons, McLain and Brow continued their traditional livelihood until well into the 20th Century. But by the 1930's, virtually all families had moved ashore, and today the island is occupied in summer only.

Peak population seems to have been in 1860 when it was 908. There was a steady decline from then until 1940, when it began to grow to the yet to be determined population today, in the range of estimated ~800.

8.3 Shipwrecks in Bremen

There are two ship wrecks listed by the Maine Historical Commission, for Bremen under Historical Archeological Sites:

The "Abdon Keene" an American wreck, Schooner; sank September 9, 1913. It was built in 1860, was 53 tons, and was "stranded on the rocks" in Muscungus Bay.

File Me 053-001 – The source is the Encyclopedia of American Shipwrecks, Mariner Press, 1972. Author is Bruce D. Burnam.

"Cora F. Cressy"-American wreck, Schooner built in 1902, beached in 1939. above low tide, in Greenland Cove. It was owned by Loyall Sewall. Hull was used as a breakwater. Source: Architectural Historian, Nicholas Dean, who lives in Edgecomb.

8.4 Historic Buildings

Kirk Mohny of Maine Historic Preservation Commission reports that the Daniel Weston Homestead and the Bremen Town House are the only two listed on the National Register of Historic Places. He continues: " A comprehensive survey of Bremen's historic, above-ground resources needs to be conducted in order to identify other properties which may be eligible for nomination to the National Register of Historic Places.



HOUSE: Daniel Weston Homestead ADDRESS: Route 32 DATE OF CONSTRUCTION: 1806

ORIGINAL OWNER AND BUILDER: Daniel Weston (1783-1860)

HISTORICAL SIGNIFICANCE: the house reflects the position and background of its builder, who was son of pioneer settlers and a leading figure in early Bremen.

Daniel's father, a sea captain, died in a shipwreck in 1788, leaving the property where the present house stands to Daniel. Architectural features such as fireplaces, fine woodwork, wide proportioned windows bear the stamp of the shipwright, Daniel Weston. The Daniel Weston Homestead was listed on the National Register of Historic Places in 1979. The House was almost destroyed by fire in 1996, but it has been meticulously restored since then.

HOUSE: BREMEN TOWN HOUSE



ADDRESS: 560 Waldoboro Road

DATE OF CONSTRUCTION: 1874

BUILDER: Oak Lodge of The Good Templars, Hence its name "Good Templars Hall".

HISTORICAL SIGNIFICANCE: The templars sold it to the town in 1884, and Town meetings were held there until 1959. The Bremen Town House currently is used for

community affairs, and it was listed on the National Register of Historic Places in April 2000.

Other houses of that are historic interest but are not yet listed on the National Register of Historic Places include:

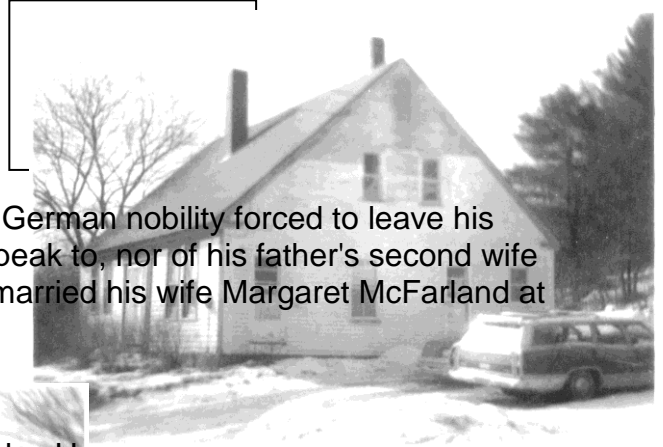
HOUSE: Joseph Dochendorff →

ADDRESS: 549 Waldoboro Rd, across
The Road From Bremen Town House

ORIGINAL OWNER: Joseph
Dochendorff

DATE OF CONSTRUCTION: 1764

HISTORICAL SIGNIFICANCE: Joseph was of German nobility forced to leave his home in Germany because he would neither speak to, nor of his father's second wife by Title, but insisted on calling her Nancy. He married his wife Margaret McFarland at Port Frederick, Pemaquid.



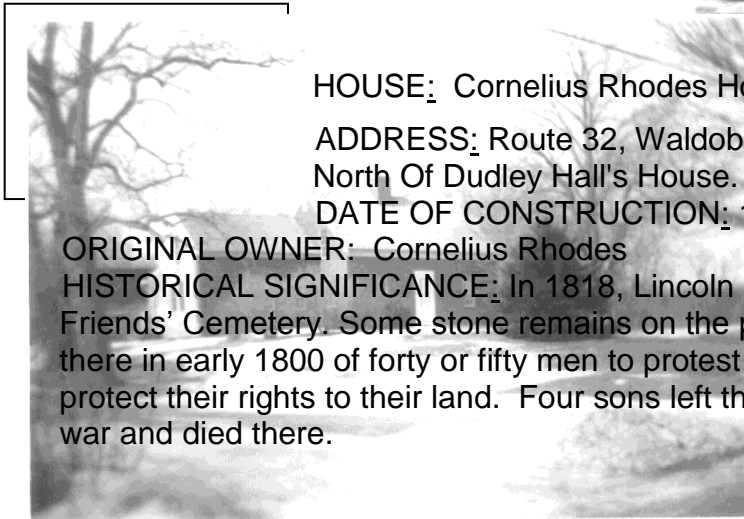
HOUSE: Cornelius Rhodes House

ADDRESS: Route 32, Waldoboro Road, Broad Cove Section,
North Of Dudley Hall's House.

DATE OF CONSTRUCTION: 1763

ORIGINAL OWNER: Cornelius Rhodes

HISTORICAL SIGNIFICANCE: In 1818, Lincoln Rhodes deeded ½ acre for the Friends' Cemetery. Some stone remains on the property. A meeting was held there in early 1800 of forty or fifty men to protest surveyors running lines and to protect their rights to their land. Four sons left this home to serve in the civil war and died there.



HOUSE: Union Church

ADDRESS: Route 32

DATE OF CONSTRUCTION:
1829 (At This Site)



DATE OF ORIGINAL: 1772

HISTORICAL SIGNIFICANCE: The Old Meeting House was originally erected in Broad Cove Parish, at the place then called Greenland. It was used as a place of worship.

In 1824, it was torn down and the materials set aside to be used in the construction of the rebuilt, relocated church.

The land for the church was sold on July 1, 1824, by Oliver Nash for \$40.00 (½ acre adjacent to his own home). Two ecclesiastical councils were held in Bremen homes in 1829. These were attended by pastors and delegates from churches in Bristol, Waldoboro, and Boothbay; fourteen persons presented themselves for membership to form the Congregational Church of Bremen. The Church was rebuilt on the Nash land in 1829.

Hon Harvey Lovely presented the bell to the Bremen Church in his Mother's memory in 1889. His mother was Sophronia Bullfinch Lovell (February 16, 1828-August 12, 1886).

8.5 Commercial History Of Town Of Bremen

In 1900, the Maine register listed as many as nine retail stores and 8 manufacturers doing business in Bremen. These included; a general store in Keene neck; two general stores, two groceries, an ice company and three boatyards in Medomak; three general stores and a blacksmith in Broad Cove; a smith and carriage works near the Weston School; two lumber yards and a saw and grist mill in Muscongus.

The first store in the Bremen section of Bristol could well have been the Garrison at Muscongus, one of many along the River to Waldoboro where the friendly Indians traded furs for tools and trinkets and the fishing boats came in for bait and supplies. Wm. Hilton lived at the Garrison with his family during the French and Indian War (1755-1759), while working his farm at Broad Cove.

In 1804, Benjamin Smith of Marblehead Mass, purchased an acre of land from William Burns and set up a store to supply fishing vessels. He also fished, and sailed his vessel *Flakes* to the West Indies, selling dried fish to plantation owners to feed slaves. About 1800, Sullivan Hardy owned the Tide Mill at Greenland Cove where he sawed lumber and ground corn. He was the first town clerk of Bremen in 1828. He wed Priscilla Weston, Dau. of Arunah, and they had at least nine children. Their son Benjamin Hardy started a store and chandlery on the high point of the knoll to the west of Broad Cove landing, selling mostly to the small sloops. Sullivan Hardy remarried

when Priscilla died in 1820 to Mrs. Jennet Fisher who had a son by her previous marriage. As a result the Tide Mill store was later known as the Fisher Store.

George Storer had a two story general store and wharf at the very end of Storer Road, which closed at his death in 1908.

Isaac and Sam Webber ran a dance hall and a grocery store on Shore Road from 1875 to 1915. They shucked clams, and had a weir by Ram Island for bait which they sold to the local and Gloucester fishing fleets.

Sands Woodbury had a store at the junction of Rt. 32 and the oldest road in town, leading from Sam Tuckers house to the Bristol Town Hall at Bristol Mills. At that time, 1865, Sands owned the Commodore Tucker place. A few years later the Tucker place burned. The land was sold to Tom Moses who moved the old store onto the Tucker foundation and lived there.

Down the road by Adeline McLoughlin's, by Route 32 and the old Green Burns town road, Fernando Woodbury had a general store, "Aunt Cynthia" said they hauled that building up from Round Pond Village with oxen to within 300 ft. of Joshua Webbers Mill. For a time the Post office was there and above the store was a dance hall, which the Woodbury's son in law Alonzo Butler, later converted into an apartment. After the store was closed around World War I, Artel Taylor, son of William, used the building as a carpenter shop and also sold gas from an old hand cranked pump. Butler had meanwhile acquired the agency for the Standard Oil Co. 1900. He sold it about 1915 to Foss Ethridge of Damariscotta who are now Colby and Gale.

Zenas Yates married Margaret Webber in 1850 and purchased land from Joseph Burns at the top of Muscongus Hill. He built a general store, lived upstairs, kept the Post Office and loaned money on many farms in the area. He played cribbage on top of the cracker barrel and town affairs were talked over before town meetings in April.

Granville Osier ran a store opposite McHenry's in a house built by James Webber, (son of Benjamin and Margaret), on Shore Road about 1850. Osier delivered groceries and ice going to each home in his area by horse and buggy every Friday morning, taking orders, telling and swapping the latest news and delivering in the afternoon. The place burned about 1910. Granville's nephew Bill Clark started a store at Muscongus Harbor during the 1920's.

In 1908 fire destroyed Sam Weston's store at his home in Greenland Cove, he made an offer to Andrew Geele for his store at Medomak and bought it. Sam made an apartment out of the dance hall upstairs, and Phil Weston was born there about 1918. It later became Lou Osier's store.

Melle Simmons ran a store on Bremen Long Island, a favorite with the fisherman since it was easy to get to by boat when the roads were impassable 9 months out of the year.

The Bremen cash market was located just north of the present town landing operated by Frank Studley.

8.6 Cemeteries

Although the 1988 Comprehensive Plan stated there were 10 cemeteries, the attached map (Attachment 2) shows 17, with 3 on Bremen Long Island. Some are public, some private.

Public cemeteries listed in 1988 were Hillside (see attachment 3), Weston, and Broad Cove, off West End of Turner Road and 2 on Bremen Long Island. A Plot plan of the Hillside and Weston Cemetery are also attached. The Tomb on the Hillside Cemetery was used to hold bodies in the winter when the ground was frozen. Burial took place in the spring. The town-owned cemeteries have burial plots available.

Private cemeteries listed include Woodbury, at Muscongus, Medomak on Medomak Road, Kravitz heirs next to Weston, and Hilton on Nobleboro Road.

8.7 Prehistoric Archeological Sites

According to the Maine Historic Preservation Commission, there are 59 prehistoric sites in Bremen, of which 28 meet requirements for listing in the National Register of Historic Places. Almost all of these are sites of Indian origin. The shoreline has been surveyed, and the areas considered archeologically "sensitive" are marked on the attached maps. Other likely, but not yet surveyed areas are along the shores of Pemaquid Pond and Webber Pond. Attachments 4 and 5 describe the excavation work (1988) on the Todd Site in Medomak Village. The National Audubon Society now owns the land. There are layers of material, shell middens, and maybe even a house from 1150 years ago. Obviously, there is much work to be done in documenting the ancient history of Bremen.

8.8 Existing Preservation Program

- **National Register of Historic Places**

The Daniel Weston Homestead and the Bremen Town House are listed on the Nation Register of Historic Places. These two historic landmarks are therefore considered among the nation's cultural resources worthy of preservation. The listing means that under State or local permit processes -- such as the Environmental Impact Statement, State DEP Site Law and local subdivision or Site Review -- agencies would have to have to submit the application to the State Historic Commission for review.

- **Local Ordinances**

Language protecting archaeological and historic resources is included in the Commercial and Industrial Site Review Ordinance the town passed in 2001 (Section 7.U). Historic and Archeological Resources are defined in the ordinance as "areas identified by a governmental agency such as the Maine Historic Preservation Commission as having significant value as an historic or archaeological resources and *any areas identified in the municipality's comprehensive plan.* (Emphasis

added). Protection for archaeological sites is also included in the Shoreland Zoning Ordinance (Section 15.T)) and for historic features in the Subdivision Ordinance (Section 10.2.D).

In 1976 the Bremen Bicentennial Committee published a town history called *Bremen Bygones* that covered the period 1876-1976, picking up where John Johnston's definitive 1873 *A History of Bristol and Bremen* ended. The 80-page *Bremen Bygones*, which included many historic photographs of buildings and sites, was very popular and soon sold out.

Although Bremen does not have an elected or appointed historic commission, it does have a very active historical society organized in 1991 to collect and preserve historical memorabilia and records relating to the town, and to encourage and promote interest in Bremen's history. This society of about 60 members works with the town government to preserve historic records and documents. The town has set aside a room in the town center for this purpose. The Society also maintains a collection of historic Bremen photographs and other memorabilia. It has recently acquired computer and scanning equipment which will enable it to catalog its collection and make copies of historic photographs and documents more easily available to the public.

The Society has reprinted *Bremen Bygones* (now in its third reprinting) which may be purchased at the Town Office and at Society meetings. The Society presents programs on topics of local historical interest and prepares exhibits on local historical topics for summer display in the historic Bremen Town House. Among other activities sponsored by the Society are group walks along historic town roads and trails and to view historic sites.

8.9 Conclusions and Recommendations

Knowledge and preservation of the history of this town is an important part of defining Bremen, its present and future directions. Bremen still has many reminders of its history as a coastal community. The many historic houses and cemeteries identified above contribute texture and richness to the town's character. It is hoped that the extensive description written by David Hall, and others, included in this plan will bring history alive for children and set a framework for our own attempts to shape the future.

Natural and human threats to the integrity of these artifacts do exist. Listing of the two houses on the National Register of Historic Places is one level of protection. Awareness and pride in these historic homes is likely to lead to greater respect and support for their preservation. The results of the surveys recommended by the historians at the state office will also lead to appreciation of the value of artifacts and thereby to voluntary protection.

In order for Bremen to:

- Protect prehistoric and historic archeological sites and historic buildings, structures and objects;

- Ensure land use ordinances provide appropriate protection for historical and archeological resources;
- Encourage land and building owners to preserve significant historical buildings; and
- Foster community pride in the town's historic resources;

the following recommendations are made:

1. The Planning Board should amend the Building Permit Ordinance to include language that will protect identified archeological and historic resources, and review Shoreland Zoning, Subdivision and Commercial and Industrial Site Review Ordinances to ensure current ordinance language adequately protects those resources.
2. The Comprehensive Plan Committee, the Bremen Planning Board and the CEO should work with the Maine Historic Preservation Commission and other organizations to identify all prehistoric and historic archeological resources and create an archeological resources map from the list. The Bremen Planning Board and the Code Enforcement Officer should refer to this map in reviewing building permit and site review applications.
3. The Town of Bremen and Bremen Historical Society should seek a grant or grants to complete the survey of historic homes and other buildings started in the 1980s. Using the results of the survey, they should compile a list of historic buildings and properties that are significant to the town. Information compiled on each listed property should include the known history of the building and its owners, why the building is significant to the town's history, any significant archeological interior and exterior details, and old photos if they are available. This information would be available to current homeowners and potential buyers, and it could also be published in booklet form.
4. The Town of Bremen and the Bremen Historical Society should sponsor a workshop on how to have an historic property named to the National Register, including information on funding sources, to help owners protect historic properties.
5. The Bremen Historical Society should prepare an exhibit on Bremen's historic sites and properties.

9.0 AFFORDABLE HOUSING

The State of Maine has expressed a goal of encouraging and promoting affordable housing opportunities for Maine citizens. For Bremen to support this goal, we must

answer the following questions: At what prices would housing in Bremen be affordable to very low income, low income and moderate-income households? Does there appear to be housing available in these price ranges in town?

9.1 Housing Census

In Table 9-1, we present U.S. Census data describing housing stock in Bremen and nearby towns in 1990 and in 2000. Figure 9-1 shows that the percentage change in total units, occupied units, and units used seasonally for each of the towns over the 10 year period. According to the U.S. Census Bureau, during the 1990s Bremen experienced the greatest percentage increase in housing units of any of the towns in the Pemaquid region. Bremen's total housing units increase from 441 in 1990 to 600 in 2000, a 36% increase. The next largest rate of increase occurred in Bristol, where total housing units increased 27% during the decade. While percent change in total housing stock varied greatly from town to town, there was less variation in changes to the number of occupied units. Occupied units – those occupied by full-year residents at the time of the census enumeration – increased by 20% to 25% in four towns and by 14% to 16% in the other three. We show in Table 9-1 that the increases in occupied units during the 1990s decade were greater than the increases in population in every town in the region. We can conclude, therefore, that housing construction more than kept pace with population growth, and, as a consequence, persons per occupied unit declined slightly (3% to 9%) throughout the area.

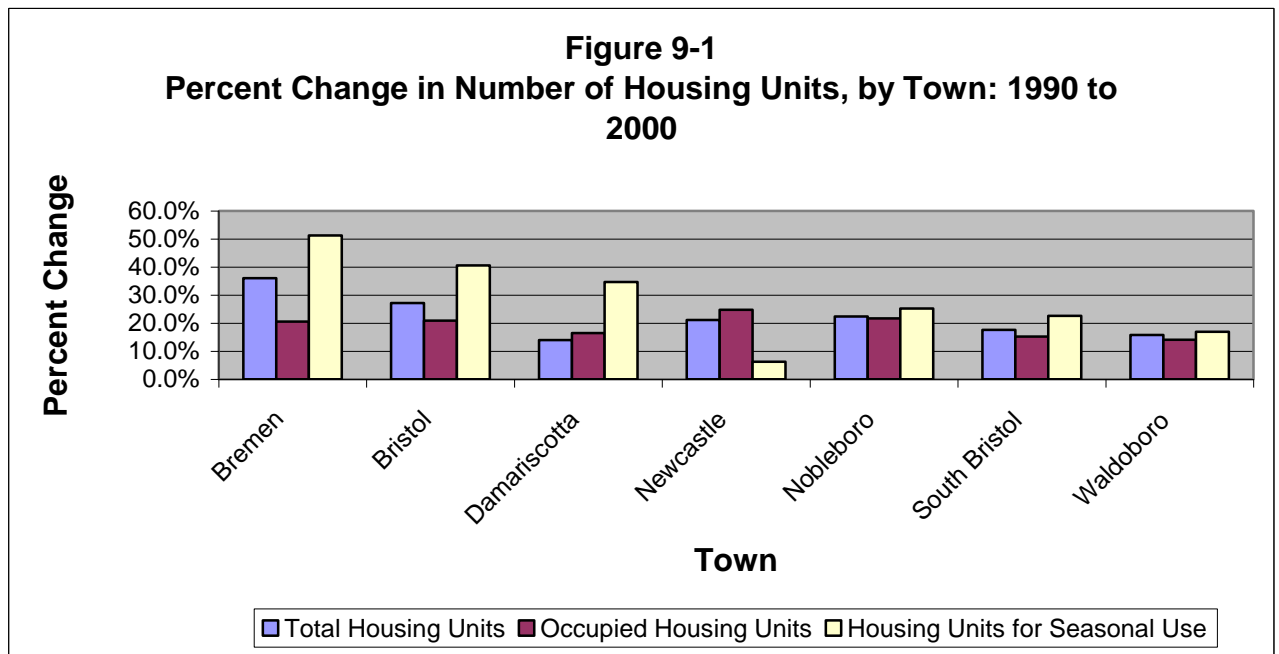
Although every town experienced moderate increases in occupied units, some – Bremen particularly – experienced substantial growth in seasonal housing. In Bremen, this category of houses increases nearly 51%, and in neighboring Bristol, seasonal houses increases by more than 40%. Damariscotta, also adjacent to Bremen, saw its stock of seasonal homes increase by nearly 35% and Nobleboro's stock went up by more than 25%. Although the percentage increase in seasonal housing stock was only 22.7% in South Bristol, the number of new seasonal units, at 94, was considerably larger than the number of new occupied houses. Of all the towns in this area, only Newcastle did not experience a surge in seasonal house construction during the 1990s.

According to the U.S. Census Bureau, the term "Housing Units for Seasonal Use" refers to how the units are used, not to the construction of the housing. Some, or perhaps all, of the 82 new seasonal units in Bremen might be year-round homes. Although census files provide estimates on type of heat used in homes – a factor that could provide a clue as to whether a home could be occupied during the winter – these data are given only for housing units already classified as occupied; no information is given on heating in seasonal housing units. We saw in the Population section of the Bremen Comprehensive Plan that between 1990 and 2000 Bremen's total population

Table 9-1
Housing Stock, by Town, Occupied Status, and Seasonal Status: 1990 and 2000*

| Census Year | Town | Total Housing Units | Total Population | Occupied Housing Units | Persons Per Occupied Unit | Percent Occupied | Housing Units for Seasonal Use | Percent for Seasonal Use |
|--------------------|---------------|---------------------|------------------|------------------------|---------------------------|------------------|--------------------------------|--------------------------|
| 1990 | Bremen | 441 | 674 | 273 | 2.47 | 61.9% | 160 | 36.3% |
| | Bristol | 1,800 | 2,326 | 993 | 2.34 | 55.2% | 737 | 40.9% |
| | Damariscotta | 1,010 | 1,811 | 809 | 2.24 | 80.1% | 121 | 12.0% |
| | Newcastle | 723 | 1,538 | 577 | 2.67 | 79.8% | 111 | 15.4% |
| | Nobleboro | 892 | 1,455 | 557 | 2.61 | 62.4% | 301 | 33.7% |
| | South Bristol | 790 | 825 | 354 | 2.33 | 44.8% | 415 | 52.5% |
| | Waldoboro | 2,039 | 4,601 | 1,738 | 2.65 | 85.2% | 195 | 9.6% |
| 2000 | Bremen | 600 | 782 | 329 | 2.38 | 54.8% | 242 | 40.3% |
| | Bristol | 2,288 | 2,644 | 1,201 | 2.20 | 52.5% | 1,036 | 45.3% |
| | Damariscotta | 1,151 | 2,041 | 942 | 2.17 | 81.8% | 163 | 14.2% |
| | Newcastle | 876 | 1,748 | 720 | 2.43 | 82.2% | 118 | 13.5% |
| | Nobleboro | 1,092 | 1,626 | 678 | 2.40 | 62.1% | 377 | 34.5% |
| | South Bristol | 929 | 897 | 408 | 2.20 | 43.9% | 509 | 54.8% |
| | Waldoboro | 2,360 | 4,916 | 1,983 | 2.48 | 84.0% | 228 | 9.7% |
| Change 1990 - 2000 | Bremen | 36.1% | 16.0% | 20.5% | -3.7% | -11.4% | 51.3% | 11.2% |
| | Bristol | 27.1% | 13.7% | 20.9% | -6.0% | -4.8% | 40.6% | 10.6% |
| | Damariscotta | 14.0% | 12.7% | 16.4% | -3.2% | 2.2% | 34.7% | 18.2% |
| | Newcastle | 21.2% | 13.7% | 24.8% | -8.9% | 3.0% | 6.3% | -12.3% |
| | Nobleboro | 22.4% | 11.8% | 21.7% | -8.2% | -0.6% | 25.2% | 2.3% |
| | South Bristol | 17.6% | 8.7% | 15.3% | -5.7% | -2.0% | 22.7% | 4.3% |
| | Waldoboro | 15.7% | 6.8% | 14.1% | -6.4% | -1.4% | 16.9% | 1.0% |

* Source: U.S. Census Bureau, 1990 and 2000



was quite stable in all age groups but one, the pre-retiree group, age 45 to 64, which increased by 70% during the decade. We have no data on owners of seasonal homes, but it is not unlikely that a portion of those home owners are pre-retirees who may choose to settle in Bremen during the next decade. To the degree that this occurs, Bremen could experience substantial increases in population even if no additional housing units are constructed.

Table 9-2
Housing Density, by Town: 1990 and 2000

| Town | Land Area (square miles) | Total Housing Units 1990 | Housing Units Per Square Mile 1990 | Total Housing Units 2000 | Housing Units Per Square Mile 2000 |
|----------------------|---|-------------------------------------|---|-------------------------------------|---|
| Bremen | 18.1 | 441 | 24.4 | 600 | 33.1 |
| Bristol | 33.9 | 1,800 | 53.1 | 2,288 | 67.5 |
| Damariscotta | 12.4 | 1,010 | 81.5 | 1,151 | 92.8 |
| Newcastle | 29.0 | 723 | 24.9 | 876 | 30.2 |
| Nobleboro | 19.0 | 892 | 46.9 | 1,092 | 57.5 |
| South Bristol | 14.2 | 790 | 55.6 | 929 | 65.4 |
| Waldoboro | 71.3 | 2,039 | 28.6 | 2,360 | 33.1 |

In Table 9-2, we show housing density in Bremen and nearby towns for 1990 and 2000. In 1990, with 24.4 units per square mile, Bremen's housing density was the lowest of all towns in the area, less than half that of Bristol and South Bristol, and only 30% as dense as Damariscotta, the commercial center of this area of the Mid-Coast. Housing data from Census 2000 shows that Bremen's housing density continues to be relatively low, compared to towns like Bristol, South Bristol, and Damariscotta. But Bremen no longer has the lowest housing density in the area. The number of houses per square mile in Bremen is higher than that of Newcastle and equal to the figure for Waldoboro. Even with the changes over the past decade, Bremen continues to be a relatively sparsely populated, rural area, with large amounts of open space. But Bremen's rate of population growth is the highest of all towns in the area, and now we see that the rate of increase in its housing stock is also higher than all neighboring towns. If the 36.1% increase rate were to continue for another 10 years, Bremen would have more than 200 new houses constructed by 2010, and this could begin to compromise the rural character so valued by the residents of the Town.

9.2 Housing affordability

Our survey of the Town's tax records for 2000 showed that the 337 owner occupied housing units were distributed as follows:

Table 9-3
Distribution of House Structure Value, Bremen, 2000

| <u>Value</u> | <u>%</u> | <u>Number</u> |
|-----------------|----------|---------------|
| \$200,000+ | 2 | 7 |
| 130,000-199,999 | 9 | 30 |
| 100,000-129,999 | 9 | 30 |
| 65,000-99,999 | 30 | 101 |
| 40,000-64,999 | 28 | 94 |
| Under 40,000 | 22 | 74 |

It should be noted that these housing unit values are for the structures only; no land value is included. It is suggested that in our planning for affordable housing a minimum of \$15,000 should be added to these values -- that being the lowest estimated price of a building lot in Bremen currently.

Thus, it is estimated that there are about 74 housing units in Bremen today that are worth \$55,000 (40,000+15,000) or less; there are an additional 96 units that are worth between \$55,000 and \$80,000, with just over 100 between \$80,000 and \$115,000, assuming that each unit is on a lot of minimum value. The fact is that not all of them are; many are on oversized lots worth considerably more than \$15,000. However, these latter could evolve into this low-land-value status via property subdivision, and perhaps for this reason, they should be counted as potentially affordable.

They certainly qualify as "affordable" according to the current state standards. That is, median family income in Bremen (for 2.3 family size) is estimated as \$32,832 for the year 2000 (\$31,250 as reported for 1998, adjusted for two years of 2.5% inflation). This results in the following family income stratification:

Table 9-4
Estimated Housing Costs for Very Low, Low, and Moderate Income Residents of Bremen*

| Income Class | Percent of Median Income | Estimated Annual Income | Annual Housing Allowance | Monthly Housing Allowance |
|--------------|--------------------------|-------------------------|--------------------------|---------------------------|
| Very Low | 50% | \$16,416 | \$4,925 | \$410 |
| Low | 80% | \$26,266 | \$7,880 | \$657 |
| Moderate | 150% | \$49,248 | \$14,774 | \$1,231 |

*Assumes housing costs represent 30% of annual family income.

The "Very Low" income housing allowance shown here will support a 7%, 30-year mortgage on a \$50,000 property (this is a rough current market rate; various government entities subsidize lower rates for affordable housing). Bremen currently has 74 housing units valued at under \$40,000.

The "Low Income" allowance will support a mortgage on a \$75,000 property; there are an additional 90 properties in Bremen in this bracket.

The "Moderate Income" allowance will support a mortgage of \$150,000. There are more than 100 additional units in that bracket.

Therefore, it is fair to conclude that, if market prices are consistent with appraised values, that there is ample housing in the "affordable" price range for low, very low, or moderate-income people in Bremen.

9.3 Affordable Housing Availability

Although affordable housing exists in abundance in Bremen, just about all of it is occupied. There are very few vacant houses in town -- at any price. Therefore, this consideration of affordable housing in Bremen must focus on its *availability*.

Of course it is inevitable that at least some of the ample supply of affordable housing in Bremen will eventually come upon the market, but that process could be slow. It should be recognized then that providing additional affordable housing in Bremen in the near future would necessitate development. Development of one new "very low" income unit might require a budget as follows:

| | |
|-----------------|----------|
| Lot | \$15,000 |
| Lot preparation | 10,000 |
| Mobile Home | 25,000 |

The mobile home would be readily available; securing a \$15,000 lot would be the bottleneck. There are, of course, empty lots which might sell for \$15,000, but none are known to be on the market presently. There is considerable undeveloped land in larger plots, which might come on the market for potential affordable housing, but these are also not on offer at present. But even if such parcels were available, such new affordable home development in Bremen would require subdivision of the acquired property. It should be noted, however, that the town currently has a rather stringent Subdivision Ordinance with no exclusions for affordable housing development.

Further, certain of the town's citizens are firmly of the opinion that this ordinance should be made even more restrictive (their motivation being based on a wish to limit overall growth in town, rather than to bar affordable housing). In any case, it should be recognized that there is a current ordinance in place in town (which might be

strengthened) which will represent a barrier to rapid affordable housing development on large parcels. The town does own some 40 acres, which could be used for such development, but affordable development here would also have to comply with the Subdivision Ordinance.

And then there is Crabapple Creek, an existing 19-acre subdivision developed in the late 80's by the Community Housing Improvement Project (CHIP), a local non-profit. Original financing utilized land donated by a local citizen, together with CHIP assets and various low-interest mortgage opportunities provided by state and federal agencies on the condition that a set number of units be reserved for "very low" and "low" income buyers. The subdivision was to consist of 13 homes, ranging in price from \$38,000 to \$45,000. Each modular home was to be sited on a lot of about 1/2-acre, on a poured concrete foundation, with an oil-fired hot water heating system and a fully equipped kitchen. The remainder of the acreage was to be held in common -- most of it, uncleared woods. Initially 7 of the 13 planned homes were built and sold.

In the early 90's, a housing market slump caused a halt in development and CHIP's funding ran out. The property was then taken over by Coastal Enterprises, Inc., (CEI) of Wiscasset, and this company continues its ownership/management role today. No new construction has taken place beyond that initially completed. It has been necessary for CEI to "take back" some of the properties for various reasons until now only 2 are still held by original owners. CEI rents several on an option-to-buy basis. Currently, in the spring of 2001, there are 2 houses vacant and available for sale or rental.

The current status of Bremen's only dedicated and subdivided affordable housing development is:

| | |
|--|---|
| units owner-occupied | 2 |
| units rented with-option-to-buy | 3 |
| vacant units, available for rent or purchase | 2 |
| undeveloped lots | 6 |

The undeveloped lots could be developed for modular homes for less than \$50,000, and thus are clearly affordable. The vacant units would also fill the affordable income specs.

Thus, there currently exists in Crabapple Creek in Bremen 2 immediately available affordable housing units. Additional 6 units could be made available in a relatively short time. The question looms: why are worthy low-income families not beating down CEI's doors? It is true that CEI has not aggressively promoted Crabapple Creek. But that does not seem to answer the question; affordable housing should not need to be promoted; the news of availability of attractive, new homes for qualified families for under \$50,000 (or a low rental with option-to-buy) in Crabapple Creek should have spread like wildfire among people seeking affordable housing.

But it has not. Why not? One might wonder if there is a demand for affordable housing in Bremen. As noted above, there is much of it here already -- occupied by families who might be interested in a Crabapple Creek home that they are content with the home they have.

Indeed, upon inquiry, we find that the Selectmen/Overseers of the Poor are not aware of any Bremen citizens in need of housing.

How about demand from Mainers from out-of-town? It may be that the inconvenient location of the Crabapple Creek is a significant deterrent for people not employed in the vicinity. Jobs in town are non-existent or scarce. A person with an affordable home does need a job. That person would have to commute to work from Bremen; the family would need a car (maybe two) in our bedroom community. This might make even an affordable home, unaffordable.

9.4 Public Opinion

The survey asked respondents to check the areas of town where they would find elderly housing, mobile home parks, one level duplexes, or apartments acceptable. It is assumed that this type of housing is more likely to be "affordable".

52% of respondents would accept elderly housing along Route 32, 36% along all other roads, 40% in "neighborhoods"- or villages. Mobile Home parks did not fare so well. 68% did not want them anywhere in Bremen. - The other percentages are too insignificant to report)

33% thought duplexes are acceptable on Rt. 32, and 29% along other roads. 18% thought them acceptable in the neighborhoods and 36% did not find them acceptable anywhere.

Apartments acceptability were a bit lower than duplexes but fairly similar: 27% found them acceptable along route 32, 21% along other roads, 20% in neighborhoods and 47% didn't find them acceptable anywhere.

9.5 Conclusion and Recommendations

There appear to be adequate numbers of affordable houses in Bremen. However, most are occupied, and therefore not currently available. Affordable housing might be built on the considerable undeveloped land in town -- both town owned and privately held. Much of this land would have to be subdivided before any development could take place, and the Bremen Subdivision Ordinance is quite rigorous, although there are no exclusionary provisions for affordable housing. Crabapple Creek is an existing subdivision, which is dedicated to affordable housing and in which there are current vacancies.

Therefore, it seems clear that there is an immediate supply of available affordable

housing in Bremen -- a supply that is meeting the current low demand. If demand should suddenly develop, it could be immediately satisfied by 2 units currently standing vacant at Crabapple Creek and 6 more which could become available there in less than six months. Should future demand build beyond that level, market turnover would provide additional units. Aside from that, town-owned land and private parcels could be subdivided to provide more space for affordable housing.

Even though current demand is not high, the Town does not want to discourage people with low or moderate income from buying land and building a home, which is affordable. It is recommended that the Planning Board:

1. Review the Subdivision Ordinance for opportunities to encourage development of affordable housing, and
2. Consider zoning for affordable housing development, perhaps with smaller lot size requirements and/or community wells and septic systems.

10.0 PUBLIC FACILITIES AND SERVICES

10.1 Town Governance

The citizens of the Town of Bremen govern themselves through regular and special Town Meetings. The Board of Selectmen and other elected officials are responsible for administering the Town government.

Elected officials are chosen by secret ballot on Election Day prior to the regular Town Meeting, which is usually held on the last Saturday in March. Elected officials are:

Selectmen, Assessors, Overseers of the Poor: 3 people elected to 3 year terms on a staggered basis (compensated);

School Board: 5 people elected to 3-year terms on a staggered basis;

Planning Board: 7 people elected to 3 year terms on a staggered basis.

The Selectmen appoint the following officials for one-year terms:

Office Manager/Town Clerk/Tax Collector/Treasurer/Registrar of Voters

Code Enforcement Officer

Shellfish Warden

Town Attorney

These positions are compensated.

The Selectmen also appoint ad hoc Committees and other officials, including the Harbor Master, who are not compensated. Members of the Bremen Fire and Rescue Department elect the Fire Chief, who is compensated for his duties, on an annual basis.

10.2 Contracted Services and Service Agreements

Ambulance service coverage

Fire Protection (mutual aid)

Road repair

Snow removal and sanding

Transfer Station

10.3 The Town Office Facility

The Town Office is located off Route 32 in what was known as the old Bremen Grade School. The location and the building itself seem to serve the town well for office space, meeting rooms for committees, storage space and sufficient restrooms for both men and women. The building is also used to house the voting polls as well as any town meetings. The only deficiencies noted are as follows:

- The large room used for the town meetings is too small to handle all that attend the meetings. The Fire Station is an option that could be considered, It is handicapped accessible

- The parking area is also too small to handle all the parking needs during town meetings or special functions. As Bremen grows, an alternative site will have to be developed.

10.4 Cultural Facilities and Organizations

- **Bremen Library**

The Bremen Library is a not-for-profit association administered by a Board of Trustees and staffed by a paid librarian and a number of volunteers. Financial support for the Library comes from a Town subsidy, from membership dues, a trust fund, annual donations from the Patriotic Club, the Muscongus Club, and from a number of fund-raising activities sponsored by the Library Association. Most noteworthy of which is the May plant sale and the Christmas-time wreath sale, which bring people from all over the area to Bremen..

The first steps toward creating a town library were taken by a group of women residents. Initially, the library book inventory consisted mostly of donations from residents, including several valuable collections of books. Fund raising events provided money for the purchase of other books.

The Library was originally opened in the Bremen Town House on Town Meeting Day in 1945. At that point the Library was staffed entirely by volunteers and was open two afternoons a week. The Library Association was incorporated in 1951. Over the years, the Library grew in number of volumes and patrons, and in 1954, in need of larger quarters, moved into a small building of its own near the Bremen Grade School. The Association also hired a paid librarian for one afternoon a week.

The Library's present building was erected in 1974 with funds donated by a philanthropic resident. This structure provides ample shelf space for the Library's growing collection. There is an upstairs room for smaller meetings and storage, and in 1995 there was completed an addition of a large meeting room, which is used for various meetings and exhibits.

The Library is currently open four days a week, including one evening. The Library's collection of about 10,000 adult and children's books, audio and video tapes is available for use by any member. Special emphasis is placed on the children's reading program. In addition, the Library has an up-to-date computer with Internet capability.

Recently the Bremen Library became part of the MidCoast Borrowing Cooperative. Now patrons can use the services of the other libraries in the group (including Bristol Area Library, Waldoboro Public Library, Skidompha Library, Wiscasset Public Library, Boothbay Harbor Memorial Library, Patten Free Library (Bath), Topsham Public Library, and Southport Memorial Library). This expands the offerings available without increasing the budget or the need for a larger library.

- **Community Service Organizations**

Other service organizations in Bremen include the Patriotic Club, the Muscongus Club, the Historical Society, and the Hockomock Horticultural Society. Meetings of these groups are held in the Town Center, Library, Town House, and the Muscongus Club. Public suppers are held in the Fire Station and the Muscongus Club.

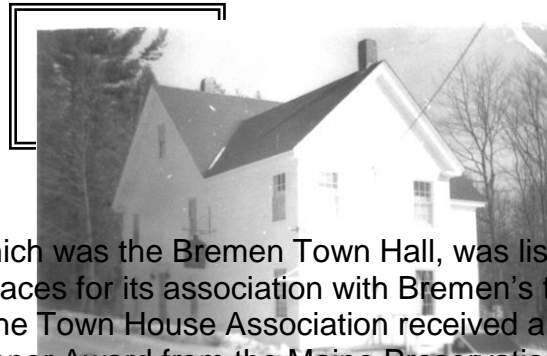
The Patriotic Club of Bremen has developed a welcome packet of local information to be given to people who move into town. The Historical Society has held exhibits related to Bremen History in the Town House. To date these have included exhibits of old maps and houses, boat builders, and Bremen schools.

The Society has now taken possession of a room in the Town Center and moved their artifacts there, including the old –time photos that they recently received.

The Bremen Union Church is a vital part of the community; the front stairway and the handicap ramps were recently replaced. An addition that includes a meeting room and kitchen was added last year.

- **The Bremen Town House-Association**

The building known as the Bremen Town House was constructed in 1874 for the Oak Lodge of the Good Templars, an international temperance organization.



In April 2000 The Town House, which was the Bremen Town Hall, was listed on the National Register of Historic Places for its association with Bremen's town government and social history. The Town House Association received a 2001 Statewide Historic Preservation Honor Award from the Maine Preservation Society for organizational excellence in the restoration of the 1874 Town House.

With the recent repairs and improvements, it is now an attractive venue for meetings, exhibits and parties. It has a kitchen, rest room and plenty of parking space. All improvements will respect the historic integrity of the building.

10.5 Bremen Fire Department

- **The Fire Station**

The fire station is located close to the center of town off RT. 32. The front section of the existing fire station was built in about 1951. It had two bays—one was used to house a fire truck, the other for storage. In about 1975 two additional bays were built to the rear of the then existing building, and there were now two fire trucks housed there. The original bays were then used to house another fire truck and the selectmen's office. In 1990 an extensive addition was built, almost entirely with

volunteer labor and financial contributions-that is, with very little expense to the taxpayers of Bremen. This addition houses four fire trucks and a rescue boat and trailer. In the year 2001, for the first time the Bremen Fire Department acquired a brand-new truck.

The two bays in the front that started out in 1951 housing one fire truck and storage have been converted to one large meeting room which is also used as a radio communications center. The two bays that were used to house two fire trucks in 1975 were converted to now contain space for the first responders' vehicle and the kitchen. The kitchen is used by the fire department for their dinners and for occasional fund-raising dinners open to the public.

In the 50 years since the first fire station with its one truck, the department has grown both in terms of equipment and building, all to meet the needs of the town.

The building contains the following:

- ◆ 3 large fire truck bays
- ◆ 2 smaller bays, one for the department utility truck, rescue boat and woods trailer, and the other for the First Responders rescue truck.
- ◆ Tool room
- ◆ Equipment room
- ◆ Kitchen
- ◆ Office space and meeting room
- ◆ 2 restroom facilities
- ◆ shower room
- ◆ Boiler room
- ◆ 2 overhead storage spaces

Facility Equipment:

- ◆ LP gas generator
- ◆ LP gas stove/oven
- ◆ Electric stove/oven
- ◆ Electric refrigerator
- ◆ Forced hot water boiler

.All areas of the facility appear to be in good repair and well maintained. It is believed that this facility meets the town's current needs for this type of operation. Expansion in the near future is unlikely unless unexpected development in large proportions took place in town.

• **Fire and Rescue Equipment**

The new 2000 E-One Freightliner pumper was a big complement and wise investment for the Town's fire protection efforts. With the new pumper and the 1996 Freightlining tanker, the Town has two very reliable pieces of fire fighting apparatus that should have an estimated usable life of 25 +/- years. This is based on current and expected use in the future.

The department currently has a 1973 pumper/tanker in use as a back up pumper. This piece of equipment does not meet current ISO insurance ratings as a Class "A" pumper for fire fighting. This truck was donated to the Town several years ago and was kept up and maintained by the fire department as a back up pumper.

The Chevy 1 ton utility truck and the rescue boat are in good repair. They should last the town many years into the future under current and estimated use.

The First Responder Rescue truck has recently been replaced with a second-hand vehicle and is in satisfactory condition at this time..

10.9 Law Enforcement

The Lincoln County Sheriff's Department patrols the town on regular county patrol schedule. We learned from a conversation with Chief Deputy of the Lincoln County Sheriffs Department, that the County provides two deputies and a sergeant in all shifts during the week and three deputies and a sergeant during the weekend. Summer time generally does not require more coverage- the tourists, and traffic is balanced off against, ice snow and accidents in the winter. However, in the summer there are more special events, when the coverage is increased. Bremen is visited by an officer once each shift. When demand for police services increases, either from the number of complaints or increased perception of need, the Sheriff's Department can either contract with the Town to provide more services or the Selectmen may request the County Commissioners to increase staff. (Both of these options result in increased costs, contracting being more direct than the increased county taxes.)

The Town has recently started contracting with the Sheriff's Department for provision of shellfish warden services. This arrangement appears to be working well for the Town.

An important growth management question is – how does demand for increased police protection increase with the growth of population? In response to this question, the Deputy Sheriff stated that demand for services do not increase linearly with increases in population. Demand is proportionately higher in suburbia than in urban areas, and demand experiences a bump or leap in the curve when an area becomes suburbanized. Sprawl does cost more. As people move from urban or suburban areas, they expect the same level of services. While economies of scale are greater in densely populated areas, demand increases as population "sprawls" into the rural areas. People used to living in urban areas or other suburbs are much more likely to call the police to take care of minor discord than they do in the rural areas.

There are no simple formulas for police and level of service. Often the demand for police service is highly dependent on people's perception of their safety.

10.10 Salt and Sand Storage Facility

The salt and sand building is relatively new and it is believed that it meets or exceeds the current town needs and those in the near future.

10.11 Water, Sewer and Solid Waste

Bremen currently has no public water service, nor does it provide a public sewage system. Residents and businesses have individual wells and septic systems. Septage

removal is currently through private contracts and dumped where the companies have contracts such as InterState Septic out of Rockland.

Trash removal is the responsibility of the homeowner.. Bremen shares the Nobleboro Transfer Station. Residents receive a sticker, which assures them access to the Transfer Station. Recycling is encouraged. The annual Reort of 2001 urges residents to recycle as the town pays \$100/ton for hauling to MERC incinerator, in Biddeford.

10.12 Public Opinion on Facilities and Services

Respondents to Bremen's public opinion survey indicated the following:

- 61% were satisfied with the Fire Protection Service; 1% was dissatisfied, and 17% did not know;
- Satisfaction with police service was less than with fire protection. 49% of the respondents were satisfied, 15% were dissatisfied, and 6% would pay more taxes to improve the service.
- 54% of the residents were satisfied with trash disposal services, 6% were dissatisfied, 23% didn't know
- 58% of the people are satisfied with snow removal, 5% dissatisfied, 22% didn't know.
- 56% are satisfied with road sanding, 7% were dissatisfied, and 22% didn't know
- 65% - the highest percent satisfied with all the services listed, were satisfied with road maintenance
- 62% were satisfied with ambulance service, none were dissatisfied, 18% didn't know.

10.13 Conclusions and Recommendation

There appears to be a high level of satisfaction among residents with the Town's facilities and services. Nevertheless, selectmen should appoint a Town Facilities and Services committee to review the condition and needs of municipal property.

11.0 EDUCATION

Bremen does not operate any schools directly. However, in the latter half of the nineteenth century, Bremen had nine one-room schoolhouses, and several of these are still standing and have been converted to other uses, mostly residential. Town records show that school enrollment in 1875 was 345. Over the years as the population declined, all of these schools were closed.

In 1959, the last of the one-room school houses were replaced by the Bremen Grade School, built on a 5.5 acre parcel on Route 32. As of October 1, 1987 there were 73 students attending the elementary school. By the 1993-1994 school year enrollment at the Bremen Grade School had declined to 30 students in Kindergarten through Fifth grade. Fifteen students were tutored to the Nobleboro Elementary School, and 25 high school students were sent to a variety of schools.

Table 11-1
Bremen School Enrollment 1980 – 2001 *

| Year | Elementary | Secondary | Total |
|----------------|------------|-----------|------------|
| 1980 | 89 | 37 | 126 |
| 1981 | 97 | 43 | 140 |
| 1982 | 99 | 33 | 132 |
| 1983 | 97 | 29 | 126 |
| 1984 | 93 | 24 | 117 |
| 1985 | 84 | 24 | 108 |
| 1986 | 80 | 30 | 110 |
| 1987 | 74 | 39 | 113 |
| 1988 | 69 | 44 | 113 |
| 1989 | 64 | 48 | 112 |
| 1990 | 66 | 43 | 109 |
| 1991 | 53 | 39 | 92 |
| 1992 | 41 | 33 | 74 |
| 1993 | 45 | 25 | 70 |
| 1994 | 36 | 29 | 65 |
| 1995 | 50 | 22 | 72 |
| 1996 | 48 | 26 | 74 |
| 1997 | 49 | 28 | 77 |
| 1998 | 59 | 31 | 90 |
| 1999 | 64 | 33 | 97 |
| 2000 | 64 | 37.5 | 101.5 |
| 2001 | 70 | 31 | 101 |
| Average | 68 | 33 | 101 |

- Source: Data from Annual Town Reports

As shown in Table 11-1, Bremen's school enrollment declined steadily after 1980. With the costs of maintaining the school building "up to code" and the difficulties of attracting staff to such a small school, Bremen decided to close the Bremen Grade School in September 1994, and to tuition its K – 5 students to the Great Salt Bay Elementary School in Damariscotta. Sixth through Eighth grade students were added over the next several years, and in 1997 Bremen joined with Damariscotta and Newcastle to form the Great Salt Bay Consolidated School District.

Most children from Bremen in grades Kindergarten through eighth grade now attend the Great Salt Bay Elementary School. Some children attend private schools or are home schooled. Since joining the Great Salt Bay CSD, education for Bremen children has greatly improved, and Bremen has become a town that people with children now consider moving into. As of October 1, 2001, school enrollment was 101, 70 in elementary school and 31 in high school (see Table A).

High school students are free to attend whatever school they choose, provided that school accepts them and they can pay any associated costs that exceed the State-determined tuition payment required of "sending" towns. The vast majority of Bremen's high school students choose to attend Lincoln Academy, a private school serving a public purpose, located in Newcastle. Some students attend Medomak Valley High School in Waldoboro, and several students attend private schools out of the area. Several of Bremen's Lincoln Academy students take advantage of vocational education courses offered at schools in Bath and Rockland. Lincoln Academy offers the JMG (Jobs for Maine Graduates) Program, primarily for grades 11 & 12.

11.1 Bremen School Board

Bremen has a school board comprised of 5 members serving staggered three-year terms. One member is elected by the other board members to serve as chairman, and one of the members is elected to serve as Bremen's representative on the Great Salt Bay Board. The local board also appoints a representative and an alternate to serve on the Union 74 Adult Education Advisory Board. Currently the Board meets the third Tuesday of each month at 4pm in the Bremen Library on Rt. 32.

11.2 School Union 74

Bremen is part of a cooperative called School Union 74. Other members of this cooperative are Damariscotta, Newcastle, Bristol, South Bristol and Nobleboro. Bristol, South Bristol and Nobleboro each have their own elementary school. Board members from each Town make up the board of Union 74, and the board chairs from each town serve as the executive committee for the Union. The primary function of the Union is to provide the office of the Superintendent and various administrative functions to each town. The Union office staff seeks ways to consolidate functions now being performed in the other towns with schools in order to achieve some economies of scale. School Union 74 also sponsors the Adult Education Program in which many Bremen residents participate. The program includes among its offerings GED, Adult Basic Education and College Preparation Courses.

11.3 Education Costs

Bremen's share of the costs of elementary education and the operation of the Office of the Superintendent is based upon enrollment.

Secondary education costs are paid on a per pupil basis with the annual tuition amount determined by the State (Table 11-3). The State determined amount is based upon the average cost of secondary education in Maine over the previous two years. If a school attended by a Bremen student has a higher tuition fee than the State determined amount, the student's parents must make up the difference. If the school costs less, the Town pays the lower amount. Special education, vocational education and transportation are additional costs to Bremen. Home-schooled children can participate in extra-curricular activities at Great Salt Bay School at no additional cost and at Lincoln Academy for an additional fee.

(See the Fiscal Capacity section for a further discussion of the fiscal impact of educational costs.)

Table 11-2
Education Costs, by Year and School Level

| School Year | Elementary | Secondary | Total | Per Pupil |
|--------------------|-------------------|------------------|--------------|------------------|
| 1988-1989 | \$270,226 | \$245,762 | \$515,988 | \$4,607 |
| 1989-1990 | \$291,634 | \$233,908 | \$525,542 | \$4,821 |
| 1990-1991 | \$348,699 | \$227,578 | \$576,277 | \$6,264 |
| 1991-1992 | \$369,146 | \$211,256 | \$580,402 | \$7,843 |
| 1992-1993 | \$320,003 | \$173,354 | \$493,357 | \$7,048 |
| 1993-1994 | \$354,012 | \$124,868 | \$478,880 | \$7,367 |
| 1994-1995 | \$258,066 | \$157,319 | \$415,385 | \$5,769 |
| 1995-1996 | \$293,146 | \$149,216 | \$442,362 | \$5,978 |
| 1996-1997 | \$291,892 | \$166,677 | \$458,569 | \$5,955 |
| 1997-1998 | \$256,829 | \$207,532 | \$464,361 | \$5,160 |
| 1998-1999 | \$235,897 | \$231,072 | \$466,969 | \$4,814 |
| 1999-2000 | \$322,025 | \$285,160 | \$607,185 | \$5,982 |
| 2000-2001 | \$378,685 | \$298,027 | \$676,712 | \$6,700 |
| 2001-2002* | \$452,434 | \$342,176 | \$794,610 | \$7,867 |

Source: Office of the Superintendent

*Budgeted

Table 11-3
Secondary Tuition Rate, by Year

| Year | Rate * |
|-----------|---------|
| 1994-1995 | \$4,638 |
| 1995-1996 | \$4,864 |
| 1996-1997 | \$4,890 |
| 1997-1998 | \$5,053 |
| 1998-1999 | \$5,110 |
| 1999-2000 | \$5,433 |
| 2000-2001 | \$5,732 |
| 2001-2002 | \$6,014 |

Source: Office of the Superintendent

* Plus 10% Insured Value

11.4 School Availability Issues

The Great Salt Bay Elementary School was designed for an enrollment of approximately 500 students. Enrollment has been fluctuating around 470 for several years. Bremen's students currently make up approximately 14% of the student body at the Great Salt Bay Elementary School, and Bremen has one representative out of seven on the GSB Board. This representation was determined at the time Bremen joined the CSD. However, if Bremen's share were to increase, say to 25%, consideration should be given to requesting that Bremen have additional representation.

Lincoln Academy intends to maintain its enrollment below 600 students. Its 2001-2002 enrollment was 540 students, and data indicate that the number of students attending Lincoln Academy will be even greater next year. Lincoln Academy is a private school, and theoretically it can decide to not accept all students from Bremen. They can be selective, but their policy is to accept Union 74 students first. Lincoln Academy's stated primary mission is "to be the high school of Union 74." In addition to Union 74, Lincoln Academy also serves a number of other towns in the mid-coast area. If enrollment demand were to exceed 600, Lincoln Academy's policy would admit fewer students from towns outside of Union 74; it would not deny enrollment to residents of Bremen.

Lincoln Academy has a reasonably good reputation for educating students who desire to go on to college. Programs at LA for vocationally oriented students are limited, however. Although there are two vocational schools that our students attend, due to the distance students must travel, they only spend about two hours a day at the vocational school and two hours on the bus. The rest of the day is at LA for academic courses.

11.6 Conclusions and Recommendations

There is widespread satisfaction in Bremen both with the costs and quality of education for our K – 12 students. Because the total number of school age children on the Pemaquid Peninsula is projected to decline over the next decade, we do not anticipate that Bremen's students will have problems with access to either of the schools most choose to attend, Great Salt Bay Community School and Lincoln Academy. However, the Town may see its per-pupil cost increase over this period for students attending Great Salt Bay, if that school's total enrollment declines.

12.0 RECREATION AND ACCESS

12.1 Inventory of Recreation Resources

- ***Athletic Fields***

The only athletic field in town is the non-maintained baseball field behind the former school, now Town Office. There is one basketball hoop by the Town Office, but residents at the July, 2000 Town Meeting did not think the town should apply for funds to develop another field or basketball court.

- ***Public Access***

- Four town landings:

- a. Bremen Public Landing at the end of Storer Road- has limited parking, but it has a ramp for launching.
- b. Medomak Town Landing off Town Landing Road- good parking, pier and two floats, no ramp for boat access.
- c. Bremen Long Island— There is a town road to southern, midisland and west shore.
- d. Creek Road- land slopes down to the water; could launch a small boat at high tide, parking is limited. The Town is currently working with the State to restore the landing

- A private marina for public use at the end of Medomak Road has limited parking and provides gas, diesel, ice, groceries, boat storage, lobsters (live or cooked), and a boat ramp suitable for small boats only.

- Rights of Way. There is one right-of-way to salt water on Keene Neck Road. It is used primarily by clambers, and there is very limited parking.

- Ponds

- a. Biscay. Bremen has a Town -owned right-of-way, at 13 Fogler Road, with 20 feet of shore frontage. It is un-maintained path, and the on-site spring is polluted . This pond is shared with Damariscotta and Bristol.
- b. Pemaquid. Access is available from Turner Road. The pond is used for fishing and ice fishing, and boating (canoes, kayaks and small motor boats).This pond is shared with Damariscotta and Nobleboro.
- c. McCurdy. Informal access is available from Turner Road. The pond is used for swimming, fishing, ice fishing, and boating (canoes, kayaks, and small motor boats).
- d. Webber. There is no public access to Weber Pond. However, according to Maine law (see 17MRSA§3860 in following section), access by foot across open land cannot be denied to the public.

- Open Space

Nine parcels of land, in Bremen, are classified as “open space” land under the Farm and Open Space Tax Law. Open space is land that provides a public benefit by conserving scenic resources, enhancing public recreation opportunities, promoting game management and/or preserving wildlife and wildlife habitat in exchange for a tax reduction. Some of these parcels are additionally restricted under the land use categories of “permanently protected” and/or “forever wild”. Several lots allow public access; this involves allowing daytime, non-motorized, and non-destructive use of the land by the public. Further use restrictions may be imposed or more intensive uses permitted, on an individual lot, by the landowner. Of the 633.52 acres of land in Town classified as open space, 405.75 acres were newly registered in 2001.

- Trails

Maine Audubon Society maintains a public trail and will soon put trails on a piece of land recently purchased on Keene Neck Road.

The Johnson Hill-Fire Tower, located off Route 32 near junction of Medomak Road, sits on approximately 250-300 acres, which is privately owned but open to the public. However, there is a safety concern regarding the physical condition of the tower.

12.2 State Laws Related to Recreational Resources

- ***Great Pond; access or egress (17MRSA§3860)***

"No person on foot shall be denied access or egress over unimproved land to a great pond except that this provision shall not apply to access or egress over the land of water company or a water district when the water from the great pond is utilized as a source for public water."

- ***Acquisition of Rights-of-way and easements by adverse possession; (14MRSA§812)***

(Paraphrased and therefore not to be taken as a legal opinion). Land which has been continuously used by the public for 20 years cannot be taken away without due process. A person may prevent the conversion of such customary use to an easement or prohibition by a specified notice process.

- ***Commissioner of Inland Fisheries and Wildlife Rule Making Authority, Snowmobiles, (12MRSA§7792)***

Department of Inland Fisheries and Wildlife licenses watercraft and has the legal authority to establish rules on horsepower " ... *the Commissioner shall take into consideration the area of the internal waters, the use to which the internal waters*

are put, the depth of the water and the amount of water-borne traffic upon the waters and determine whether or not the rule is necessary to insure the safety of persons and property... such rules may be only adopted as a result of a petition from the municipal officers of the municipality or municipalities in which the waters exist or from the municipal officers of the municipalities in which the waters exist or from 25 citizens of the municipalities in which the waters exist, by county commissioners of the county in which the waters exists..."

12.3 Town or Publicly Owned Land

- ◆ Bremen Public landing- 1.5 acres
- ◆ Town Center and Fire Department- total of 41 Acres- Town has first refusal on land beside Fire Department
- ◆ Medomak Town Landing
- ◆ Clam Island
- ◆ State owned islands include: Narrow's, Crotch, Jim's, and Strawberry,.
- ◆ Hungry Island is owned privately by Nature Conservancy , but its use is subject to local ordinances.

12.4 Indoor Meeting Facilities

- ◆ A large multipurpose room, or auditorium at Town Office
- ◆ A Public library
- ◆ The Bremen Town House
- ◆ Fire Station

12.5 Programs and Activities

Town-or local organization-sponsored activities include: church and public suppers, Bremen day, Christmas tree lighting, garden tours sponsored by the Hockomock Horticultural Society, Spring Plant Sale, Girl Scout and Brownie troop, and weekly bridge game. The Library has a summer reading program for children, as well as occasional lectures during the winter. .Additionally, the Patriotic Club annually sponsors a County Fair, a scholarship awards ceremony for all Bremen high school graduates going on to post-secondary education, and a town clean-up day. The Town House Committee has a volunteer day to get the Town House building and grounds ready for the summer season, and Lincoln County home-schoolers have interesting. Programs open to the public

12.6 Issues Related to Access to Recreational Resources

- **Access to Salt Water**

Public access through the Bremen Town Landing, Medomak Town Landing and the one commercial marina seem to be adequate for both commercial and recreational boaters. Parking for vehicles and trailers does appear to be a problem, however. The parking at Town Landing, about 30-35 spaces, would seem to be adequate. However launching for any boat larger than a kayak or small canoe is not possible.

The discussion at the July 2000 Town Meeting and rejection of a proposal to mark the access at Storer Road indicates a strong desire to discourage non-Bremen resident users. A spokesperson at the Bureau of Park and Recreation of State of Maine says that the town could institute a differential fee and sticker system for non-residents, as long as the difference is not meant to exclude non-residents. However, the system would require supervision and enforcement by the Town, and, if Federal funds are used, access points have to be marked.

- **Access to Ponds**

There is informal access to 3 of the 4 ponds either partially or entirely within the town boundaries. These points of access have very limited parking. The consensus seems to be that the lack of parking limits public access to just about the right degree.

The State Bureau of Parks and Lands guidelines for towns with less than 1000 people does not recommend a swimming facility or beach.

As a practical matter, the largest obstacle to developing a swimming area is DEP's regulations. Especially for lakes not fully attaining their classification, DEP would be reluctant to allow bringing in sand or fill for a beach.

- **Trails**

Issues relating to trails include whether there are sufficient trails to meet the Town's need, and how conflict among trail users can be minimized.

The trails around the Audubon landing, Hog Island and Johnson Tower seem to meet the needs of residents. Johnson tower has been sold, and there does not seem to be sufficient demand for trails to motivate action to protect the trail there for public use. There are also many informal, unmarked trails where landowners permit mostly snowmobiles, cross county skiing or snow-shoeing. Developing and maintaining trails would appropriately handled by a coordinator who could discuss issues with landowners and work out voluntary agreements.

The only problem with trails identified during the planning process was the feeling by some residents that use of trails by noisy 4 wheeler-motorized vehicles needs to be better controlled.

- **Athletic Fields/Play Grounds**

Whether or not there is a need for a playground must be weighed against insurance factors and requirements for supervision and maintenance. The playground formerly located at Bremen's Community School (now the Town Center) was considered to be a source of problems. When the school closed, the School Committee donated the playground equipment to the Great Salt Bay School. Since then, there has not appeared to be any urgency to establish another playground in Town.

The State Bureau of Parks and Lands recommend that towns with less than 1000 people should have:

- ◆ A Community recreation area, 12-25 acres developed with ballfields, tennis courts, ice skating
- ◆ Softball and/or Little League Diamond
- ◆ Basketball Court
- ◆ Ice skating rink
- ◆ Playground
- ◆ Picnic area with 2 tables and a grill

However, these seem unrealistic for Bremen, and there appears to be no demand for such facilities.

12.7 Public Opinion

From the survey, it appears that residents would like to have additional recreational resources available, but there seems little enthusiasm for paying for these resources. Specifically:

- 63% of the responders thought winter trails ought to be sponsored and maintained by volunteers, and 63% thought there ought to be more hiking trails developed by volunteers;
- 77% of respondents would like the Town to build a playground for children. This was the highest percent of support for any of the recreation facilities or services listed. However, respondents differed on how the playground should be financed. 43% of those responding thought that volunteers should build the playground, while 34% felt that Town tax revenues should pay for the construction

12.8 Conclusions and Recommendations

Although Bremen is rich in recreational resources, additional resources and improved public access to current resources are both desirable. Guidelines provided by the State Bureau of Parks and Lands recommend that towns with less than 1000 people

establish a Recreation & Park Board or Committee. Bremen did have such a board between 1979 and 1982, and it is recommended that Selectmen explore the possibility of establishing a Recreation Committee to coordinate and advise the town on issues affecting recreation. Such a committee could examine:

1. Methods for acquiring improved access to salt and fresh water resources;
2. Methods for encouraging the use of trails in wintertime for cross-country skiing and snowshoeing. In addition, a summer-time use of the trails could be for non-motorized bicycle riding.
3. Methods for encouraging landowners to open designated portions of their lands for hunting, with an emphasis on safety. A hunting safety course is offered at the Central Lincoln County YMCA in Damariscotta.
4. In cooperation with the Bremen Fire Department, sponsoring First Aid and CPR training for people of all ages.

13.0 TRANSPORTATION

13.1 State and Locally Maintained Roads

Bremen's primary roads are simply the updated – i.e., modified for motor traffic – roadways used since the 18th century as wagon trails. Even Bremen's road names are largely unchanged from those used for the past two hundred years. Paving of town roads began only in the 1950's, and Turner road was finished and accepted as a State road as late as 1982. Current State and State-Aid roads, maintained by the State include:

| | |
|---------------------------|------|
| Route 32 (Waldoboro Road) | |
| Turner Road | |
| Biscay Road | |
| Total Miles: | 11 ½ |

Town maintained roads with their approximate mileage are as follows:

| | |
|----------------------------------|------------|
| Fogler | 2 ½ |
| Shore | 2 |
| Keene Neck | 2 |
| Medomak | 2 ¾ |
| Heath | 2 |
| Storerr | ½ |
| Nobleboro | 2 ¼ |
| Creek | 1/6 |
| Musconkus | 1/3 |
| Town landing | ½ |
| Town Road on Bremen, Long Island | 1 ¾ |
| Collamore | <u>1/5</u> |
| Total Town maintained miles: | 16 1/4 |

The following roads are private, most of them under ½ mile, and with a few exceptions, provide adequate fire protection: Cove Field, Old County, Periwinkle Lane, McCurdy Estates, Porcupine Ridge, Neck, Spruce Point, Back Shore, Greenland Cove,.

13.2 Traffic, Volumes/Trends, Accidents

The Maine Department of Transportation Traffic Division monitors annual and daily traffic counts and keeps records of all reported accidents. Traffic in Bremen is heavily influenced by seasonal traffic; therefore MDOT places it in the Recreation Category for traffic counting purposes. That means that MDOT counts traffic between April 1 and October 31, for a 24 hour period. ¹ A recreational group factor is subsequently applied to produce the Annual Average Daily Traffic. Results are shown in Table 13-1.

¹ The data is taken from Traffic Volume Counts, 1999 Annual Reports, Collected and Published by Maine Department of Transportation in cooperation with the Federal Highway Administration

Table 13-1
Annual Average Daily Traffic on Bremen Roads

| LOCATION | 1995 | 1997 |
|---------------------------------------|-------------|-------------|
| Rt 32 S of Turner Rd | 970 | 910 |
| RT 32 S of Junct with Old Shore Rd | 970 | 910 |
| Rt 32 N of Old Shore Road | 1010 | 940 |
| Turner Rd E of Biscay Rd | 440 | 410 |
| Medomak Rd SE of Rt32 | 420 | 480 |
| Heath Road SE of Rt 32 | 70 | 80 |
| Old Shore Road S of Rt 32 | 100 | 100 |
| Biscay S of Turner | 1040 | 1040 |
| Nobleboro Rd NW of Rt 32 | 260 | 250 |

Unfortunately, 2 years of data so close together doesn't tell us much about the impact of growth on traffic. However, now that this data is kept in the computer, it would be interesting to check it again in 2005 and 2010.

MODT collects and will prepare accident summary reports upon request. They categorize accidents by the seriousness of damage or injury. The report indicates the location of the accidents, their probable cause and includes a hazard index for each node or intersection where there are accidents. This Critical Rate Factor, (CRF) is the ratio of the number of times the actual accidents have exceeded the statistically expected rate.

In Table 13-2 are listed locations of accidents in which either the CRF exceeded 1 or there was personal injury. Accidents causing property damage where the rate factor is less than 1 are not included.

Table 13-2
Automobile Accidents in Bremen< January 1998 to December 2000

| Location | CRF | Accidents | Type of Damage |
|-----------------------------|------------|------------------|--|
| Biscay/Fogler Rd | 1.77 | 2 | Property Damage |
| Biscay Rd/Rt 32 | 1.63 | 2 | Non-incapacitating Injury Property Damage |
| Rt 32/Keene Neck Rd | 1.18 | 1 | Non-Incapacitating Injury |
| Rt 32/Heath Rd | 1.16 | 1 | Incapacitating Injury |
| Length of Turner Road | 0.64 | 5 1 | Property Damage Possible Injury |
| Shore Rd-southern tip @Rt32 | 1.45 | 1 | Non Incapacitating Injury |
| Medomak Rd southern tip | 3.25 | 1 | Property Damage |
| | | | |

13.3 Road Conditions and Maintenance

The Board of Selectmen as a whole act as the Road Commissioner. Maintenance has been performed on an as needed basis, since 1991. One Selectmen drives around with a representative of the paving company, who provides an estimate for the budget process. This is published in the Town Warrant, which is then voted at Town Meeting in March.

The Town roads are paved with Flex-Pave, which lasts longer than hot top and is less expensive.

Expenditures for Bridges and Roads has ranged from ~\$102,000 in 1992 to ~\$148,304 in 1991. It has actually stayed relatively constant over the past ten years. In fact, the budget for roads and bridges was higher in 1991 than in 2000. If one were to adjust for inflation, spending for roads and bridges has gone down significantly.

Up to 2002 one of the Selectmen have been the Road Commissioner. In 2002 the Selectmen have appointed a Road Commissioner.

Plowing is provided under a three-year contract . The contractor provides sand, the Town buys salt. The plow contract includes plowing the State Roads, for which the State reimburses the Town.

This year (September 2001), Selectperson Sarah Kaler provided the following road condition report:

Biscay Road: A state-aid road, generally in good shape. Paving is good,

ditching is OK, and brush cutting is good Concerns are with a few steep driveways which cause ice build up in the winter.

Creek Road: Generally in good shape, however it has a problem with drainage. Also, this contains the original town landing which was used until the mid 1900's. There is a lot of grown up grass on this landing, it needs mowing, grading and gravel. It should be noted that if it is not maintained, the Town may lose its right to the property. In 2002 improvement work had begun.

Fogler Road: Needs repaving

Heath Road; needs ditching drainage

Keene Neck: Needs ditching. Concerns with a steep driveways which cause ice build up in the winter

Medomak Rd needs, ditching, and repaving.

Muscungus Rd. In good shape, has been paved and maintained.

Nobleboro Rd: Entire road is being repaved this year Also needs ditching. Blind spot near Munson's property needs to be addressed.

Reil Herald Rd Planned to be worked on if budget for it is approved. Road needs to be built up.

Shore Road Has been regraded. Problem with drainage and ditching (drainage higher than road). The dirt part of the road needs to be built up one foot or more. Also needs to be repaved.

Storer Rd Good condition. Only needs regular maintenance.

Town Landing Road- Good condition, just maintained this year.

Town Road on Bremen LI- Needs brush cutting

Turner Rd- state road, there are many concerns: brush needs to be cut, blind areas because of many parked cars especially in winter needs to be addressed. There are also concerns about undermining of causeway. It floods in spring, combining Pemaquid Lake and Mc Curdy Pond. There is likely to be significant phosphorus runoff affecting the water quality of both lakes. The sides of the road are very soft, which makes pulling off to the side of the road dangerous. There was an incident demonstrating this situation: a truck pulled over to let a car go by, and the truck sunk on the side of the road up to its axle.

Route 32 - A state road recently redone. It continues to break down and has large holes in the spring. Several concerns have arisen over what constitutes the base of this road. It is the major road through Bremen This roads ability to absorb more heavy commercial traffic is questionable.

13.4 State Laws and Local Ordinances

- **Access Management**

Managing access to roads is one critical way that transportation planning and permits can influence land use patterns.

"Access Management can be defined as the process that provides or manages access to private property, while simultaneously preserving the flow of traffic on the adjacent road system. It involves management of the number, location, design, and operation of driveways, median openings, and street connections to a roadway. There are many benefits to be realized from effective application of access management techniques:

- *It preserves highway capacity*
- *It improves highway safety*
- *It saves tax dollars*
- *It encourages the orderly development of land*
- *It offers aesthetic benefits"*¹

There is a State Law, Title 23§ 704 which requires all persons to apply for and receive a written permit to *"construct or maintain any driveway, entrance or approach within the right of way of any state highway or state aid highway"*. The rules, written in 2001, set standards for all driveways residential or commercial entrances.

In Bremen the requirement for a State written permit applies to all of Route 32, Turner Road, and Biscay Road.

There are some opportunities for access management on local roads. Bremen's Building Permit Ordinance is ambiguous on driveway permit requirements. On the one hand, it is not mentioned in the section listing permit requirement, and on the other hand Section 6.2 states that access roads and driveways *"shall be constructed in accordance with the requirements of the Subdivision Ordinance"*, and it sets out a performance standard that *" Driveways longer than 200' shall have turnarounds provided for emergency vehicles. The inside radii of all turns shall be no less 10'." (sic)*

Interviews with Selectmen reveal that applications are to be submitted to the Board of Selectmen for review by the Road Commissioner

The Subdivision ordinance limits direct access to "arterial streets" (not defined) Standards for roads does include minimum radii at intersection of driveways is 10' and minimum width of shoulder on each side is 3'. Additionally driveways or private right-of-way accessing a public street, *" must have a clear passage of 25 feet*

¹ Twenty Year Transportation Plan 2000-2020 Maine Department of Transportation, 2001

across its entrance. If a culverts is used to bridge the road ditch, it must have a minimum length of 25 feet."

- **Road Acceptance Standards**

One of the major functions of Bremen's Subdivision Ordinance is to set standards for roads. Article XI of the Subdivision Ordinance is clear and seems to do a thorough job.

Whether there are any standards or procedures for accepting private roads depends on interpretation of the performance standard in section 6.2 of the Building Permit Ordinance which states that "*Access roads and driveways shall be constructed in accordance with the requirements of the Subdivision Ordinance.*" But who issues the permit is not clear. According to the Selectmen they do, but that doesn't seem to be in writing.

- **Road Maintenance Funding**

The Maine Legislature repealed the former local Road Assistance Program in 1999 and enacted the Urban-Rural Initiative Program. Under this program towns receive regularly scheduled payments from DOT for capital improvements to local roads and rural state aid minor collector roads.

Rural Road Initiative funds are distributed at the rate of \$600 per year per lane mile for all rural state aid minor collector roads and all local roads located outside urban compact areas. Funds may be used only for capital improvements, which means "any work on a road or bridge that has a life expectancy of 10 years or restores the load-carrying capacity".

Up to this time there did not appear to be a need for a systematic approach for evaluating and scheduling road surface maintenance. However, the Legislature clarified eligibility for state aid for repair as follows:

"All State Aid "minor collector roads-(Turner and Biscay Road), will only be repaired as a capital improvement if the town and the DOT agree to jointly fund the project (1/3 town and 2/3 DOT) other wise any State Aid/minor collector road will receive minimal DOT maintenance."

Annually, the State sends a request to the Town for assistance. The town has to submit this request at the end of the summer every year.

13.5 MDOT's Long Range Plans

The Inter-modal Surface Transportation Efficiency Act of 1991 requires the states issue 2 year, 6 year and 20 year long range plans for road construction, and road and bridge maintenance work. Road work is projected on Route 32 from Waldoboro to Bristol.

Upon review of all three, we find there is no mention of Bremen in any of them. The 20 year plan is a general policy document with no specifics, but the 2 year and 6 year plans include the road work to be done on state and state aid roads in the seven

transportation planning districts. Bremen is in District 5.

13.6 Parking, Airports, and Public Transportation

Bremen has parking facilities at the Town House, The Town Offices, and the Library. There is also parking at the Medomak Town Landing on the Town Landing Rd; very limited parking on the Storer Road landing, and on the Creek Road Town Landing.

The US Air/Knox County Regional Airport in Owls Head, is a commercial airport. From this airport, US Air offers flights to Boston, Augusta, and Bar Harbor. The regional/commuter carriers are Colgan Air, DownEast Air, and Telford Air.

Concord Tramways offers two trips a day to Portland, Boston and Logan Airport. It stops in Waldoboro at the Texaco station on Route One, and at Waltz Pharmacy in Downtown Damariscotta.

Coastal Trans is a non-profit public transportation service based in Rockland. It provides door to door service to the public on a demand-response basis.

Trans-Link is a non-profit public transportation service based in Damariscotta for the Lincoln County area. It provides rides for seniors to medical appointments

MidCoast Limo Service of Camden provides airport limousine service.

13.7 Conclusions and Recommendations

The Selectmen made significant improvements to the management of the road system in 2003. They have created a separate position of Road Commissioner and established a schedule for road maintenance. The Board of Selectmen will be requesting more money in the next budget for road maintenance. They propose a schedule which would cover a period of 5-7 years in which all roads would be re-surfaced and maintained. If proper records are kept, the requirement to submit a status report on capital assets to Government Account Services Bureau will be much easier to fulfill. Another advantage to a Rotating Schedule and a Plan is that it will make it easier for Bremen to respond to MODT's requests for information and priorities for inclusion into its Two-year and Six year plans. Preparing a capital improvement plan and updating it annually would expedite the working relationship with MDOT and improve chances of receiving road assistance.

MMA has also published a big Notebook for Road Maintenance. It has Chapters titled; Municipal Ownership of Roads; Creation of Municipal Roads and Interests in Roads, Part II is dedicated to Road Maintenance and Repair, Control of Roads.

Currently there is an ambiguous requirement for a permit for driveways onto local roads. While there are some standards, it is not clear that a permit is required either from the Code Enforcement officer under the Building Permit Ordinance or from the Planning Board. Haphazard poorly designed driveways are unsafe, lead to ice blockages and other drainage problems and reduce the effective speed on local roads. The road condition listing above shows that Biscay and Keene Neck roads already have driveways that are too steep and causing ice buildup on the roads.

Road standards in subdivisions are clear and up to date. However, there are far more private individual house-lots being built than subdivisions. If the road layout is below safe standards, and the area is built up around it, it is difficult to require improvements and problematic to accept responsibility for maintaining a poorly laid out road. A Town Road Acceptance Ordinance may set out minimum standards of acceptance, possibly modeled on standards in the subdivision ordinance.

Recommendations for Bremen's management of roads are:

1. Prepare a Five Year Road Improvement Plan with provisions for annual review and update
2. Resume the 5-7 year rotation maintenance schedule in effect before 1991. Priority should be given to roads where there is a consistent safety problem and school bus traffic.
3. Fiscal Capacity Analysis indicates that the town needs to increase its planned expenditures for roads and bridges in coming years
4. Maintain Creek Road to avoid losing rights of way to the original Town Landing
5. Be prepared to respond to MDOT's requests for capital improvements on all roads, state and local, in a timely manner.
6. Prepare an ordinance to assure that driveways and/or entrances to local roads are safe and minimize negative impact on the quality of the roads
7. The Road Commissioner and the CEO should be familiar with and publicize MDOT's new Access Management Program
8. Examine the need for an ordinance to establish standards and procedures for Town acceptance of private roads.
9. Respond to MDOT requests on road conditions in order to be included in the Two-Year and Six-Year plans.
10. Maintain the Town Road and Town Landing on Bremen, Long Island.

14 TOWARD A FUTURE LAND USE PLAN

14.1 Historical and Current Land Use Pattern

As documented in Section 2, Population, Bremen reached its peak population of 908 in the mid 19th century. Residents were then engaged primarily in shipbuilding, fishing, lobstering, lumbering and farming, and their houses and farms were located along the major roads and in the villages of Muscungus and Medomak. As shown on the map at the end of Section 8, History and Archeology, a number of general and specialty retail stores served the Town's residents during that period.

With the decline of wooden shipbuilding and lumbering along the Maine coast in the last half of the 19th century, people began moving away from Bremen in search of work. The Town's population continued to decline until it reached a low point of 322 in 1930. By then, nearly all non-fishing-related commercial activity had ceased, many schools had closed, and few stores remained open.

After 1930, Bremen's population began a slow recovery, with residents engaged primarily in fishing, lobstering, and clamming. Today, Bremen is still a small coastal town. Occupations remain still centered on the water, with lobster and clams being the main catch. In addition to fishing, residents are employed in a number of small, home-based businesses such as carpentry, construction, and crafts, and a few non home-based enterprises, including Broad Cove Marine Services, Maine Cat, Hockomock Foods, National Audubon Society, Camp Kieve, and Bremen's lobsterman's co-op.

From 1990 to 2000, Bremen's full-time population increased 16.0%. But its overall housing stock grew by 36.0% during the decade, largely because seasonally occupied dwelling units increased 51.3% from 160 in 1990 to 242 in 2000. By 2000, 40% of Bremen's 600 housing units were seasonal. Bremen today is overwhelmingly waterfront and water-view oriented. The Town is bordered on the west by Pemaquid and Biscay Ponds and on the northeast, east and southeast by the Medomak River and Muscongus Sound. Due south of Pemaquid Pond is McCurdy Pond and west of Greenland Cove is Webber Pond. These provide beautiful lakefront, riverfront, and oceanfront settings that are highly valued by vacationers and retirees.

14.2 Natural Resource Constraints to Development

New residential and commercial development in Bremen is limited by the following:

1. Federal and/or State government regulations that prohibit or restrict development in specific areas, including wetlands, shoreland protection zones and significant wildlife habitats.
2. Such factors that influence public health and/or quality of the local environment, whether or not defined by federal or state regulation. Such factors may relate, among other things, to the health of freshwater lakes and ponds, wildlife and plant habitats, and scenic vistas.

Factors that should be considered concerning the amount and location of new

development are shown graphically on the displayed map. The 6 map panels include:

1. State and federally designated resource protection areas;
2. Soils suitability for septic systems;
3. Valuable wildlife and plant habitats;
4. Areas of steep slopes and lands in trust;
5. Watershed boundaries;
6. Summary of constraints to development in Bremen.

- **Federal and/or State Government Restrictions**

Maine's Shoreland Zoning Act, Title 38 §435-449, specifies that the following areas must be designated for Resource Protection, and therefore are off limits for any structures:

1. Areas within 250' of freshwater or saltwater wetlands, salt marsh, salt meadows and wetlands rated moderate or high value for fish and wildlife by Maine's Department of Inland Fish and Wildlife
2. 100 year flood plains designated by FEMA
3. Areas of two or more contiguous acres with sustained slopes of 25% or greater
4. Areas of 2 or more contiguous acres of wetland not connected to water bodies.
5. Land areas along rivers or tidal waters subject to severe bank erosion or mass movement.

Bremen's Shoreland Zoning Ordinance, adopted in 1993 and amended in 2001, identifies the areas shown in map Panel 1 as Resource Protection areas in conjunction with the State Act. Development in these areas is not allowed.

Maine's Shoreland Zoning Act also prohibits construction on steep slopes in shoreland areas. As shown in map Panel 4, all of the ponds in Bremen have shorelines with slopes that tend to exceed 25%. As in designated Resource Protection Areas, development on these steep slopes is not allowed.

- **Factors Influencing Public Health or Environmental Quality**

1. Soil Suitability for Septic Systems

Since 1972, when the Maine State Plumbing Code switched from requiring a simple perk test to soil suitability evaluation, the soil's capability to treat septic waste has been the sole objective criterion for permitting low density development in rural areas not served by public sewers.

Soils in Bremen, not unlike those in most other areas of Maine, tend to be wet and shallow to bedrock and the water table, and are therefore less than ideal for

supporting septic systems. Maine has regulations that restrict the location of septic systems in such areas, and public health considerations usually motivate local ordinances mandating that areas with poor soil characteristics be modified by filling, excavating, or draining before septic systems can be installed. Soil suitability problems often can be overcome by the use of mounds and tanks with multiple chambers, or by recently developed soil treatment substitutes. The installation and maintenance of such systems is typically quite expensive, however.

The Natural Resource Conservation Service has developed a rating system called "Soil Potential" for use by planners when rating soils on suitability for low-density development. The ratings are shown and listed on Panel 2.

Obviously, the degree of constraint on development represents subjective judgment. Terms like "few", "moderate", or "generally unsuitable" for development are intentionally imprecise. In any given situation, suitability will vary with the number and nature of the difficulties that a landowner is willing and able to overcome.

Reviewing panel 2, the soils map, reveals that most of Bremen is classified as "Generally Unsuitable for Development/Septic." It is interesting to observe, however, that most of the existing development in Bremen lies in these areas or in areas designated as having "Severe Constraints on Development/Septic."

For new low-density development, northwest Bremen, north of Turner and Nobleboro Roads, has few or moderate constraints and thus should be favored – at least from a soils perspective. The area between Heath and Medomak Roads appears to be the largest area in Bremen having severely constraining soil types.

2. Wildlife Habitat and Other Valued Natural Areas

Panel 3 displays wildlife habitat, wetlands, location of eelgrass and bald eagle nesting sites, all considered significant by Federal or State government. The areas in orange score in the upper 50 percentile of habitat value either because of the species found there or because of the nature and extent of the habitat cover type: grass/shrub/bare, forested, freshwater and saline. These areas are deemed worthy of protection but may not have triggered the Resource Protection designation of Shoreland Zoning (map Panel 1). The Comprehensive Planning Committee believes that some of the natural areas identified in Panel 3, notably those around Webber Pond and that area of Bremen east of Waldoboro Rd. and north of Turner Road, including the Town offices, might be considered for expanded Resource Protection Zones under Shoreland Zoning. It should be noted that Panel 3 identifies only significant wildlife and natural habitats; areas with scenic vistas or other characteristics that might be of local significance are not shown.

3. Phosphorus Limited Lakes and Ponds

Lakes everywhere in southern Maine are threatened by human habitation. Some of the threat is attributable to poor septic systems, which because of inadequate

filtration allow *ecoli* and nutrients present in human waste -- notably nitrogen and phosphorus -- to enter the lakes. The single greatest threat to the health of lakes in Maine is phosphorus, which is a natural element found in rocks and soils, and present in rainwater. It is an essential nutrient for plants and animals and is the common ingredient in fertilizers. Phosphorus is also present naturally in lakes and ponds, where it helps nourish plant life, which in turn provides food for fish and other living creatures. Phosphorus can become a problem for lakes when its concentration increases beyond levels found in natural environments. With higher concentrations of phosphorus, algae and other marine plants grow faster and larger, upsetting lakes' delicate equilibriums and, if unchecked, leading to what is termed "algae bloom."

In lake watersheds, residential and commercial development typically involves removal of phosphorus filters such as trees and bushes, and covering of phosphorus-filtering soils with buildings and roads. When we build roads, driveways, parking lots, and buildings with sloping roofs, we speed the direct, unfiltered rainwater runoff into the lakes, and this leads to increased phosphorus concentrations. The problem is greatly exacerbated by property owners in lake watersheds who fertilize lawns, thereby adding significant additional amounts of phosphorus to the levels that occur naturally.

We have already discussed soils' suitability for septic systems. Maine has also devised a ranking for soil suitability for phosphorus absorption. Type A and B hydric soils are good phosphorus filters and types C and D are poor. Most of the soils in the watersheds of Bremen's lakes are Class C and D.

The DEP has collected substantial amounts of data on Maine's lakes, and it has learned a great deal about phosphorus movement into and out of lake waters. Based on this knowledge, DEP is now able to calculate with reasonable accuracy the level of phosphorus that a lake can absorb annually before it turns green with an algae bloom. With information on how much phosphorus a lake is able to absorb, the size of the watershed, and the type of soils in the watershed, planners can estimate the number of average size lots that can be developed in the watershed -- each year or over a period of years -- without endangering the health of the lake.

The calculation depends not just on soil type and size of the lots, but also on characteristics of the sites that can mitigate the export of phosphorus into lake waters. Factors considered include existence of vegetated buffers between shoreline and cleared areas and existence of drainage ditches for roadways, driveways and parking areas.

The table below shows estimates for the amount of development in the Bremen part of the watershed each of the ponds can support. The estimates assume:

- 100 ' wooded buffer between house and lake,
- 100 ' driveway with one ditch and a 150' vegetated buffer between driveway and lake,

- Only 10-15,000 sq. ft cleared land,
- The soil type from Natural Resource Conservation Service soil surveys
- The acres already developed are one-acre lot sizes

Table 14-1

Phosphorus Defined Development Limitations in Each Watershed

| Pond | Acceptable Increase of phosphorus ppb/per year | Per acre phosphorus allocation in watershed | Houses per Year in the Bremen part of watershed | Houses in next 50 years in the watershed |
|-------------|---|--|--|---|
| McCurdy | 7.21 | 0.064 | 0.45 | 23 |
| Webber | 13 | 0.036 | 0.25 | 13 |
| Biscay | 13.48 | 0.060 | 0.42 | 21 |
| Pemaquid | 30.45 | 0.062 | 0.78 | 39 |

- **Summary Affects of Natural Resource Constraints**

Panel 6 of the map shows the result of overlaying development constraints associated with Federal and State Resource Protection zones, slopes in excess of 25%, lands in trust, soil septic suitability, and valued wildlife and natural areas. Based on these considerations, the map indicates that the vast majority of land in Bremen must be considered unsuitable or only marginally suitable for development. Except for the relatively large tract west of Route 32 and east of Pemaquid Pond, potentially developable areas in Bremen are small and scattered.

The map in Panel 6 does not include information on development limitations associated with phosphorus loading in Pemaquid, McCurdy, Biscay, and Webber Ponds. All of the “developable areas” shown on the map west of Route 32, including the large area to the east of Pemaquid Pond, lie in lake watersheds. Thus when concerns about phosphorus concentrations in Bremen’s lakes are added to the factors shown in Panel 6, it becomes clear that the only mainland areas in Bremen that can be considered suitable for new development are east of Route 32, including small tracts near Keene Neck and Heath Roads, an area north of Medomak Road. New development elsewhere is likely to have negative impact on Bremen’s lakes and other natural resources.

14.3 Existing Land Use Controls

The following is a list of the land use ordinances currently in effect in Bremen.

Recommendations resulting from this comprehensive plan would be implemented by amending or supplementing the ordinances in this list.

- *Minimum Lot Size Ordinance,*
- *Floodplain Management Ordinance,*
- *Shoreland Zone Ordinance,*
- *Subdivision Ordinance,*
- *Building Permit Ordinance,*
- *Mobile Home Park Ordinance,*
- *Site Plan Review Ordinance,*
- *Residential Growth Cap Ordinance,*
- *Earth Material Extraction and Use Ordinance.*

14.4 Public Opinion Regarding Future Land Use Issues

There were five avenues of gathering public input regarding future land use: public response and support for the Moratorium and Growth Control Ordinances, the October 2000 small group meetings, interviews, and the mailed 13-question survey.

- **October 2000 Meetings**

Five small group meetings, attended by about 10-15 people each, were held in October 2000 to solicit input on the proposed development moratoria. The meetings, which were prefaced by presentations of issues around the pending moratorium and proposed growth cap, provided opportunities for people to exchange views on the impact of growth. Views expressed at the meetings were those of individuals concerned enough to attend. While helpful, these ideas are not necessarily representative of all the seasonal and year-round residents of Bremen.

While most attendees were supportive of controlling growth, there was some sentiment for attracting business to help the town's tax base, and concern was expressed that restricting development would increase property values and taxes, and thereby drive out low-income families.

There was a strong sense of shared values for preserving Bremen's culture and way of life. The preferred means of preservation was through purchase of land or use of easements through land trusts.

- **Interviews**

Members of the Comprehensive Planning Committee were each asked to conduct depth interviews with several assigned people using a common set of questions. The following impressions were taken from notes provided by 7 of these interviews. Like those expressed at the public meetings, these views should be viewed as helpful in identifying issues, but not necessarily as representative of public opinion.

- "Keep Bremen pretty much the way it is"- like in the 70's.
- Vision: single family, large lot size, no industrial, no mobile home parks, no large retail centers.
- The lakes and ponds need more protection. The impression is that Biscay and Pemaquid are already deteriorating in water quality, and McCurdy and Webber need to be protected to keep their current high quality.
- Growth hasn't affected life much.
- Code enforcement is inadequate.
- Do need some guidance of where things can locate. Anything anywhere is not OK.
- Some areas should be designated for protection and others for development.
- Support set backs and buffers .
- Support controls for safety. Building permits should regulate against hazardous waste and risks to the ground water.
- No to "subdivisions".
- Soils should determine population density.
- Buy land for preservation; work more actively with Medomak Land Trust and PWA.

- **Survey's Responses relevant to Future Land Use Plan**

The survey was mailed out in October 2000 to Bremen property owners. The response rate was 33%, and results are presented in the Appendix.

Here, we note only those responses where more than 66% of respondents were in agreement, and those where differences between residents and non-residents were significant (more than 10%).

1. There was the greatest agreement on the importance of protecting groundwater quality and quantity: 79% said ground water quality, and 74%, quantity was most important to protect
2. Attitudes towards future commercial development: 71% thought marine/fishing should be encouraged, and 67% thought home businesses should be encouraged; 62% said to discourage large retail;
3. Question 4 asked if the density of future development should vary in the different areas of town. 45% of residents and 65% of non-residents said yes.
4. Question 5 asked what type of development the respondent thought the Town could accommodate without jeopardizing "the Bremen we love".

83% said individual homes,
43% said commercial business and
55% said NO to manufacturing.

There was a difference between residents and non residents; 57% of non residents thought manufacturing would jeopardize the Bremen you love" while only 48% of the residents thought so.

5. Question 6 asked what should determine lot size. 83% said soils and 63% said the water quality of our ponds.
6. Question 7 asked for what purposes respondents would support land use regulations:
 - 88% to protect lake, pond water quality,
 - 78% to protect wildlife refuges,
 - 74% to protect property values,
 - 71% to manage growth.
7. Question 8 asked where in Town various uses would be acceptable; the choices were Rt. 32, all other roads, around lakes/ponds, in traditional neighborhoods such as Medomak, Broad Cove, or nowhere in town.
 - 78% thought single family along Rt. 32,
 - 66% coastal, within 500' of shore,
 - 71% thought new homes in the current neighborhoods, and
 - 68% thought along lakefronts.
 - 68 % did not want Mobile Home parks anywhere in Town,
 - 61% thought convenience stores along Rt. 32 was OK.
 - There was some difference between residents and non-residents
 - 75% non-residents thought new residences should locate by lakes and ponds, but only 63% of residents thought so.
 - Similarly, 63% of residents and 70% non-residents thought new residences could be located on the coast.
 - 68%of the non-residents thought a convenience store on Rt. 32 would be OK, but only 55% of the residents thought so
 - 63% of non-residents also thought a restaurant on Rt. 32 would be nice but only 52% of the residents did.
8. There is strong support for buffer areas around service stations, industrial uses, and gravel pits.
 - 66% support buffers around service stations
 - 72% around industrial areas.
 - 72% around gravel pits.

In summary, residents clearly wish to maintain the present character of Bremen. They are willing to regulate future growth in order to protect the quality of the lakes, wildlife refuge and to protect property values.

There is no interest in seeking more growth. However, there is a willingness to accommodate single-family homes with lot sizes consistent with the soils and necessary to protect the quality of the lakes.

The desire is to keep Bremen residential, allowing some retail business serving the needs of the residents. They would be guided to locate along the major roads and be well buffered from residences. Home businesses are welcome but industrial or manufacturing businesses are not preferred.

14.5 Summary of Findings

The Comprehensive Planning Committee, upon reviewing and discussing this and other elements of this Comprehensive Plan find that:

1. Water quality of lakes is at risk from human development
2. Bremen's population grew by at least 16% in the last 10 years. That makes Bremen the fastest growing town in the county; and Lincoln county, itself is second only to York in its rate of growth- at 10.5%
3. Bremen is sparsely settled. In fact it has the lowest population density of any town in the area
4. Assuming the continuing of the growth rate of nearly 11% per decade over the last 30 years, we can expect to have to accommodate an additional 125 people in the next 10 years. At the present rate of 2.4 people per dwelling units, this means an additional 52 residential units or 5.2 units per year. The Growth Cap actually allows 8 units per year or 80 in 10 years. However, as we note in the Affordable Housing section, the total number of housing units in Bremen increased by 36% during the past decade, with most of the increase composed of seasonal units. If the Growth Cap were repealed and housing starts were to continue at the same rate for the next 10 years, Bremen would have 217 additional homes by 2010.
5. There has been very little commercial growth in Bremen in the last 10 years. Other than home business the only new business has been Maine Cat, a boat building company.
6. Growth is limited by natural constraints of poor, marginal soils, the low carrying capacity of the lakes for additional phosphorus and lack of sand and gravel aquifers.
7. Limitations to expanding the growth in the two apparent growth nodes, Medomak and Muscungus, are the soils are not suitable for on-site waste disposal and there is no support for public water or sewer.
8. As manifested by the many people, who signed the petitions and approved the building moratorium in 2000, the overwhelming sentiment is to maintain Bremen's rural character.
9. There is strong support to maintain the economy and traditional life style sustained by marine resources so abundantly available in Bremen.

14.6 Policies And Strategies Regarding Growth Management

- **Definitions**

"Rural area" means a geographic area that is identified and designated in a planning district's comprehensive plan as an area that is deserving of some level of regulatory protection from unrestricted development for purposes that may include, but are not limited to, supporting agriculture, forestry, mining, open space, wildlife habitat, fisheries habitat and scenic lands and away from which most development projected over 10 years is diverted." 30 –A MRSA §4301, sub §§-14-B 4-A, 4-B

"Critical rural area" means a rural area that is specifically identified and designated by a planning district's comprehensive plan as deserving maximum protection from development to preserve natural resources and related economic activities that may include, but are not limited to, significant farmland, forest land, or mineral resources; high value wildlife or fisheries habitat, scenic areas, public water supplies, scarce or especially vulnerable natural resources; and open land functionally necessary to support a vibrant rural economy." 30A MRSA § 4301 sub §§ 4-A

- **Bremen's Goals and Maine's Goals**

As stated in 30 A MRSA §4312, the objective of the Maine Growth Management Act is to "encourage orderly growth and development in appropriate areas of each community, while protecting the State's rural character, making efficient use of public services and preventing development sprawl"

The goal of the people of Bremen is compatible with this State goal. Bremen's goal is unchanged from that stated in the Town's 1988 Comprehensive Plan. It is "to preserve Bremen's rural, sparsely settled character and protect the integrity of the natural resources, the ponds and marine estuary."

While the State Growth Management Act contemplates that each town will designate a Residential and Commercial Growth area as well as a Rural (Protection) area, it does provide for cases where designation of growth areas is not appropriate. The Act states:

"(4) A planning district is not required to identify growth areas for residential commercial or industrial growth if it demonstrates that it is not possible to accommodate future residential commercial or industrial growth in these areas because of severe physical limitations, including, without limitation, the lack of adequate water supply and sewage disposal services, very shallow soils or limitations imposed by protected natural resources;

(5) A planning district is not required to identify growth areas for residential commercial or industrial growth if it demonstrates that the planning district has experienced minimal or no residential commercial or industrial development over the past decade and this condition is expected to

continue over the 10 years planning period.

As noted in Section 14.5 above, Bremen is currently experiencing growth. Indeed, Bremen's growth rate during the 1990s decade, both in terms of population and housing units, was the highest of any town in its area. However, instead of designating growth areas to encourage orderly growth and development, the people of Bremen have decided to limit the rate of future growth to the average of the Town's population increase over the past 30 years, 1970 to 2000. They believe that this rate can be sustained without creating undesirable sprawl, and that a concentrated development pattern would be detrimental to Bremen's natural resources and inconsistent with its rural character.

The Town of Bremen will not identify either residential or commercial growth areas for the following reasons:

1. Bremen has enough suitable land to accommodate the modest 8 units per year growth specified in the Town's Residential Growth Cap Ordinance, in an orderly light density pattern established in the last hundred years without creating undesirable sprawl.
2. The documented threat from phosphorus overloading of ponds, and resulting limited carrying capacity of the threatened ponds for additional housing in all four of the watersheds. Calculations show that even with a 100 foot wooded buffer, a ditch to control runoff from driveways, the soil types and vulnerability index of the ponds are such that these ponds can tolerate only a very low number of additional houses if they are to stay within the annual phosphorus allocation. The number of houses for McCurdy pond per year is .45, for Webber Pond is .25, for Biscay Pond is .42 and for Pemaquid pond is .78 houses per year.
3. Panel 2, Map #2 Soil Types based on the Natural Resource Conservation data shows that the majority of the town is "generally unsuitable for development". Even though development has obviously taken place along the roads, Bremen is the most sparsely settled town in Lincoln County. The generally unsuitable soils are a severe constraint to additional growth.
4. There are no longer any growth nodes to add to. The settlements at the ends of two peninsulas, Muscongus and Medomak were settled in seafaring days. They do not have the mix of residential and business that could be called a village. Nor is there the desire or population base to support the building of a public water or sewer system.
5. There is no need for a commercial growth area. In the last ten years there was only one new manufacturing business located in Bremen. Furthermore, there has never been a Commercial Village Center in Bremen. Home businesses always have and still are evolving, coming and going in people's homes or on land they own.

6. There are no sand and gravel aquifers on the mainland of Bremen. The source of water is unpredictable bedrock fractures.
7. The overwhelming desire of the residents of this town, as recently substantiated by unequivocal, strong support for a growth cap, is to maintain the sparsely settled, rural character of the Town.

- **Bremen's Growth Management Strategy**

The Growth Policy of the Town of Bremen shall be:

The watersheds of the four ponds – Pemaquid, McCurdy, Biscay, and Webber – shown on the map at the end of Section 5 of this document shall collectively be designated as a critical rural area, as defined in 30A MRSA § 4301 sub §§ 4-A, and identified as the Pond Watershed Protection District.

The Broad Cove Medomak River Watershed, as shown on the map at the end of Section 5 of this document, shall be designated as a critical rural area, as defined in 30A MRSA § 4301 sub §§ 4-A, and identified as the Shellfish Protection Watershed District.

All remaining sections of the Town of Bremen shall collectively be designated as a rural area, as defined in 30A MRSA § 4301 sub §§ 4-B.

Protection of the Pond Watershed Protection District shall be accomplished with both a short term and a long term strategy. The short term strategy involves:

1. Amending Bremen's Residential Growth Cap Ordinance to allow construction of no more than two new homes per year in the Pond Watershed Protection District. Given the assumptions underlying Table 1, Section 14.2 above, this rate of growth can be accommodated without adversely affecting the health of the ponds. Growth, in new housing units per year, outside of the Pond Watershed Protection District will be limited to six.
2. Amending Bremen's Minimum Lot Size Ordinance to specify minimum lot size, to be determined by Planning Board, for new housing units in the Pond Watershed Protection District. The existing minimum lot size of 2 acres would be retained for the remainder of the Town.
3. Amending Bremen's Site Plan Review Ordinance to require appropriate buffers between lakes and houses and lakes and driveways for new construction in the Pond Watershed Protection District. The Planning Board should determine the size and composition of the buffers required.
4. Amending the Mobile Home Park Ordinance to forbid mobile home parks anywhere in the Pond Watershed Protection District.

The long term strategy for protection of Bremen's Pond Watershed Protection District recognizes that watersheds of three of Bremen's four ponds (all except McCurdy) lie partially in neighboring towns, and that controlling phosphorous threats to the ponds must be accomplished through multi-town collaboration. Table 6-2, page 57, gives the percentages of each watershed contained in each town. If the ponds are to be protected, a regional watershed protection policy must be developed, with implemented

consistently throughout the watersheds. Thus, the long term strategy for protection of the ponds involves creation of a Regional Watershed Protection District, with participation of Bremen, Damariscotta, Bristol, Nobleboro, and Waldoboro. The Regional Watershed Protection District will monitor phosphorous loadings in the lakes, and devise minimum lot size, site plan review, and other ordinances as appropriate to protect the health of the resources. Bremen will take the lead in the creation of this regional entity.

Protection of the Broad Cove Medomak River Watershed Protection District shall be accomplished by:

1. Amending Bremen's Building Permit Ordinance to require that, whether for new construction or expansion or conversion, septic systems must be inspected and brought up to code as necessary.
2. Amending Bremen's Site Plan Review Ordinance to prohibit location of facilities or activities in the Shellfish Watershed Protection District that, under any scenario, could contribute to discharge of substances potentially toxic to shellfish.

Other Potential Growth Management Strategies

1. Commercial Fisheries/Maritime Resource Activities District in the Shoreland Zoning Ordinance, which now includes the area from Medomak Cove to Muscongus Village, could be further expanded, to include more land either along the shore or inland.
2. Home Businesses, defined in the Shoreland Zoning Ordinance as "1) clearly incidental to and compatible with the residential use of the property and surrounding residential uses; and 2) which employs no more than 2 persons other than family members residing in the home," will continue to be allowed.
3. Industrial and non-home manufacturing shall be discouraged, and prohibited in designated watershed districts. Any new enterprise desiring to locate anywhere in town will require a Special Permit from the Planning Board through the Site Review Ordinance process.
4. Access to all roads, shall be planned and limited in order to assure the future carrying capacity and safety of all the roads, state or local. The Town will work with the Maine DOT to plan the number of curb cuts and develop an ordinance for permits for all new curb cuts on all local or state roads.
5. Require applicants for expansions or conversions to conform to current standards and codes.
6. Review district designations in the Shoreland Zone to assure that high value habitats, steep slopes, cliffs and bluffs and flood plains are afforded the maximum level of protection.

7. Update the Subdivision and Site Review Ordinances at least every 3 years to assure continued effectiveness, consistency with state law and the policies of this Plan.
8. Work with the State planning Office to update the Flood Plain Ordinance.
9. Take a more active role in informing people that they are in a flood plain or using the newly issued maps by the Maine Geologic Survey, point out areas of high risk for landslides.
10. Develop a program to distribute information to landowners on the importance of and techniques for minimizing phosphorus export to the lakes.

14.7 Implementation Strategy

To carry out these policies, it is essential that Bremen effectively enforce its existing ordinances. The Town's Code Enforcement Officer should inspect building projects in process to assure compliance with plans, permit conditions, and ordinances. And Bremen's selectmen should provide full support to the CEO when enforcement action is necessary.

Additionally, the Selectmen should:

1. Appoint an ordinance review committee to assist the Planning Board in preparing new ordinances and in revising and updating existing ordinances consistent with both the short term and long term growth management strategies defined above.
2. Seek State and Federal programs and grants to reduce phosphorus export from roads into threatened ponds, and to help fund modifications needed to bring out-of-compliance septic systems up to current standards.
3. Establish a town water quality committee and assign to this committee responsibility to:
 - Establish and maintain baseline data on water quality and quantity for wells located in Bremen,
 - Establish and maintain data on water quality of the Medomak River and all ponds,

15 COASTAL POLICIES¹

Consistent with the Future Land Use Policy described in the preceding section, the Town of Bremen commits itself to ensuring the continued integrity of its coastal resources through the following goals and policies:

- 1. To promote the maintenance, development, and revitalization of the State's ports and harbors for fishing, transportation and recreation;**
 - Bremen has a Harbor Ordinance modeled on the State's with a priority system for assigning moorings.
 - Plan Committee recommends that " *Opportunities for funding improved launching and parking facilities be explored locally or on a regional basis*"
- 2. To manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats to expand our understanding of the productivity of the gulf of Maine and coastal waters, and to enhance the economic value of the State's renewable marine resources.**
 - There is a rigorously enforced clam conservation ordinance
 - The Comprehensive Planning Committee recommends "The study of the impact of activities in the entire watershed of the coast and that appropriate management controls be developed accordingly."
 - Recommend that the Selectmen continue a program to eliminate all overboard discharges and remedy malfunctioning septic systems where possible
 - A stringent new Site Review Ordinance was adopted in 2001 with the latest storm water management water quality protection standards. Additionally, the Planning Board Ordinance should be amended to state specifically that a proposed use or structure will not have any adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat.
- 3. To support shoreline development that gives preference to water-dependent uses over other uses, that promotes public access to the shoreline, and that considers the cumulative effects of development on coastal resources**
 - The Town encourages commercial fishing through the designation of Commercial Fisheries Maritime Activities zones in the Shoreland Zoning Ordinance where water dependent uses are given preference and the set backs are reduced to those needed for commercial fishing, docking and storage.
 - *The Town Comprehensive Plan Committee recommends that the Selectmen appoint a group to identify known access points and that the Town apply for SPO grant to identify and search the records to establish locations of customary or traditional, fresh or salt water access points.*

¹ The Rules- Review Criteria say: "If the municipality is a coastal community, the policies must also specify what approaches the municipality will take to address the following State Coastal Management Policies".

4. To discourage growth and development in coastal areas where, because of coastal storms, flooding, landslides, or sea-level rise, it is hazardous to human health and safety;

- The Town has zoned floodplains and steep slopes along the coast Resource Protection Zones under the Shoreland Zoning Ordinance.
- Additionally it has adopted a Flood Plain Ordinance in 1995.
- The Committee recommends that the Town contact the SPO for assistance in upgrading the Flood Plain Ordinance within the next 5 years.

5. To encourage and support cooperative state and municipal management of coastal resources;

The Committee recommends working with local and regional land trusts

6. To protect and manage critical habitats and natural areas of state and national significance, and to maintain the scenic beauty and character of the coast, even in areas where development occurs;

The new Site Review Ordinance includes a standard:

- " Environmentally sensitive areas, including but not limited to , wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and sand , gravel and bedrock aquifers must be maintained and preserved to the maximum extent." And
- " The development must include appropriate measures for protecting these resources, including, but not limited to , modification of the proposed design of the site, timing of construction, and limiting the extent of excavation

7. To expand the opportunities for outdoor recreation, and to encourage appropriate coastal tourist activities and development;

The Comprehensive Plan Committee has recommended that The Selectmen establish a Recreation Committee to study access to both ponds and ocean

8. To restore and maintain the quality of our fresh, marine, and estuarine waters to allow for the broadest possible diversity of public and private uses;

- The Town shall eliminate all overboard discharges.
- The Town shall provide for safe waste oil disposal and sanitary pump out stations.
- Seek funding for the replacement or rehabilitation of all malfunctioning septic systems in the marine watershed.
- The Town shall preserve shorefront and watershed areas to protect shellfish, finfish and marine related recreational opportunities consistent with the Rural Character of the Town.

9. To restore and maintain coastal air quality to protect the health of citizens and visitors and to protect enjoyment of the natural beauty and maritime character of The Maine Coast;

All of the policies under the Future Land Use Plan are aimed at protecting the natural beauty of Bremen.

16 REGIONAL CONSIDERATIONS

The Town of Bremen is not a self-sufficient entity; it has many ties to neighboring communities, to Lincoln County, the Mid-Coast Region and the State; therefore, some of the issues concerning Bremen are also regional concerns.

Neighboring Towns that share common land or water borders with Bremen include Damariscotta, Bristol, Waldoboro, Nobleboro and Friendship. Though not immediately adjacent, Newcastle, Jefferson, Whitefield, Dresden, Alna, Edgecomb, Westport, Boothbay, Southport, South Bristol, Boothbay Harbor, and Wiscasset are close by and each shares County services with Bremen.

Shared natural resources, mutual-aid fire departments, through traffic routes to other towns, solid waste, medical treatment and educational facilities all connect Bremen to its neighbors; Bremen is also largely dependent on other regional communities to provide much of the services and products essential for daily life. Economic factors, public safety, transportation, road maintenance, and education are Regional, Countywide and Statewide concerns.

Areas identified for regional consideration included the following:

- Lakes, Ponds and Watersheds *
- Saltwater Quality, Shore Frontage and Watershed
- Marine Resources
- Schools and Education *
- Solid Waste Disposal, Transfer and Recycling
- Facilities and Services
- Public Safety *
- Emergency Response
- Traffic and Transportation *
- Economic Factors *
- Recreation

Areas shown with an asterisk have been addressed, in terms of their regional nature, within the appropriate sections of the Comprehensive Plan and have not been repeated in this section.

16.1 Saltwater Quality, Shore Frontage and Watershed

- **Marine Resources**

For a small town, Bremen has a significant amount of shore frontage, along the western side of the Medomak River Estuary and Muscongus Bay; the Towns of Friendship and Waldoboro share this saltwater border. The waters of the Medomak River flow through Union and Waldoboro before emptying into Muscongus Bay. With both commercial and residential land uses, each community within the watershed district can adversely effect the saltwater quality.

Overboard discharge of human waste, malfunctioning septic systems, leaching human and non-human pollutants all impact the quality of saltwater, marine life and other important natural resources. Every municipality within the watershed district should address these issues both broadly and jointly.

- **Solid Waste Disposal, Transfer and Recycling**

The Nobleboro/Jefferson Transfer Facility, operated by the Towns of Nobleboro and Jefferson, is under contract with Towns of Bremen, Damariscotta and Newcastle to provide for the disposal of all types of solid waste from the five Towns. A substantial amount of waste is recycled with the support of Lincoln County Recycling and a great amount goes to the MERC Trash to Energy plant in Biddeford. The Towns should continue to work together to maintain the most economical and environmentally sound methods for solid waste management.

- **Facilities and Services; Recreation**

Bremen shares many services and facilities with other communities, including but not limited to, Miles Memorial Hospital, Healthy Kids, Kno-Wal-Lin Home Care & Hospice, Edgecomb Animal Shelter, and CLC YMCA. Most services utilized by Bremen residents are located in neighboring communities and the Town should continue to help support these service providers with tax dollar appropriations.

- **Emergency Response**

Central Lincoln County Ambulance Service, Inc., a quasi-municipal organization, is owned collectively by the Towns of Bremen, Damariscotta, Nobleboro, Newcastle, Bristol and South Bristol; each Town appoints a representative to serve on the Board of Directors. Waldoboro, Wiscasset and Boothbay also provide ambulance service to Bremen; along with Bremen's Fire/Rescue, Bristol and Nobleboro provide First Responder service to the Town if a transporting ambulance is available. Every Town in Lincoln County, except Waldoboro, participates in Mutual Aid Fire protection if requested; some neighboring fire departments will respond automatically under Mutual Aid Fire Protocol. This cooperative arrangement appears to perform very well and Municipal/County/State officials should continue to work together to seek the most economical and effective solutions to the areas needs.

Bremen recognizes the value and need to coordinate with neighboring communities to provide protection of shared resources, and to seek the best regional solutions for common concerns. Therefore, it is the long-term goal of the Town to utilize existing mechanisms and work with neighboring towns in developing new regional programs that will achieve common desires.