

Sandwich 2011 Master Plan

Executive Summary



Sandwich, New Hampshire

February 17, 2011

The Master Plan Update

A Community Process

The Planning Process

In New Hampshire, one of the major responsibilities of the Planning Board is to prepare and update Master Plans (RSA 674:1-4). It is recommended that these plans be updated every 5-10 years. The Sandwich Planning Board initiated this Master Plan process in the spring of 2008 with the selection of the Master Plan Update Committee. The Committee members represent a broad range of the Sandwich Community. Since the Master Plan had not been fully updated since 1981, the Committee felt a significant effort would be required to produce a credible and useful document. To assist in this effort the Committee selected Mettee Planning Consultants. The Committee then set out an ambitious program to develop a full Master Plan. This effort included a community survey, three public forums, numerous drafts of various sections of the Plan and dozens of meetings over the past two years. The result is a completed Master Plan that is in three parts:

- *An Executive Summary* that provides an overview of the Master Plan Update and identifies areas for future action.
- *An Implementation Guide* that consolidates a list of all the Master Plan recommendations including a priority rating for each and the entity responsible for resolving the action.

- *A Complete Master Plan* that includes an inventory and assessment of community issues along with an Action Plan for each plan element, such as natural resources and housing.

The Community Has Spoken

The Committee was keen to solicit as much input from the community as possible in an effort to reflect these views in the Master Plan process. One step in this process was to undertake a community-wide survey. Additionally, three community forums were conducted and delved deeper into some of the opportunities and issues that were highlighted in the survey. As a result of the public outreach process, several themes emerged. These included:

- Appreciation of the community services provided;
- Protection of natural and scenic resources;
- Need for digital mapping and information system;
- Need for diversified housing with preference for single family housing and accessory apartments;
- Need for a good, well-maintained transportation system, including pedestrian and bicycle facilities-trails;

- Encouraging small businesses, both as home occupations and retail and professional offices in the village areas;
- Maintaining rural, small-town character;
- Retaining high levels of social connectivity/volunteerism;
- Addressing energy conservation; encouraging a green economy;
- Protecting and enhancing opportunities for agriculture and forestry; and
- Improving Internet access.

Many People Assisted on this Plan Update

Foremost among the groups that assisted with the preparation of this plan was the Master Plan Update Committee. Over a period of almost 3 years this group met, selected a consultant and worked diligently with the consultant for 18-months to develop the final plan. This committee included:

Carroll Bewley, Chairman
 Janet Brown
 Joan Cook
 Gerry Gingras
 Linda Marshall
 Susan Mitchel
 Adam Peaslee
 Roger Plimmer
 Boone Porter

Town Hall staff were also particularly helpful in providing information to the Consultant Team and answering the many questions the Team had about Sandwich. Assisting the Committee and the Consultant Team were the Conservation Commission and in particular Rick Van de Poll who provided much input into the Natural Resources Chapter of the Plan. Ronald Lawler provided data on timber harvesting and suggestions on the Housing Chapter. The Historic District Commission provided helpful insights and suggestions on the Village Center Chapter, while the Sandwich Historical Society and staff were very helpful in providing resources for the Historic District Chapter, in particular Joan Cook and Tom Shevenell. Town Department Heads were also instrumental in providing information about the various community facilities and services.

A Vision for Sandwich

The following vision statement reflects Sandwich's common values and defines the future of the town—a community that will be prepared to accommodate modest growth and change while preserving its existing rural and village character. It also offers the guiding principles and priorities upon which this Master Plan is based. While the vision does not have the force of law, local officials and the public should consider the Vision Statement in all local plans, actions and decisions.

THE VISION

Sandwich Should:

Remain a highly desirable place to live and work by retaining its rural, quiet, small-town character through protection of its valuable natural resources, preservation of its cultural and architectural heritage and scenic beauty;

Be vibrant and diverse by promoting social, cultural, housing, and recreational opportunities for all age groups;

Maintain its high quality of community facilities and services in a cost effective manner; and

Provide opportunities for employment and small-scale businesses consistent with our rural character.

Vision Goals

To maintain these qualities for our community now and in the future, Sandwich will strive to:

1. *Allow for modest growth of residential development of a size, design and quality that is compatible with Sandwich's small town, rural character and recognizes Sandwich's evolving demographics.*
2. *Provide reasonable opportunity for housing choice so that greater age and income diversity can be achieved.*
3. *Protect historic resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.*
4. *Support and encourage protection and management of high value conservation and open space lands that are linked by trails and/or wildlife and natural resource corridors.*

5. *Preserve the town's rural, small town character and the traditional New England style of its villages.*
6. *Provide opportunity for limited village business activity (e.g., general store/professional offices) that is consistent with the architectural qualities that the town values.*
7. *Encourage home occupations that are compatible with and supportive of the town's rural character.*
8. *Provide a balanced transportation system with well-maintained public roadways lined with stone walls, open fields and trees; and encourage opportunities and facilities for pedestrians, bicyclists and recreational users.*
9. *Encourage a sustainable community, one that meets our present needs without compromising the ability of future generations to meet their needs*
10. *Provide, in a cost effective manner, the quality and level of municipal services and facilities that are enjoyed in Sandwich today.*
11. *Encourage modern communication facilities, systems and services to meet the needs and diversity of Sandwich's residents and businesses, now and in the years to come.*
12. *Encourage and foster high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level.*

In the following section each of the Master Plan Chapters will be summarized and the relevant Vision Goal(s) above will be associated with the appropriate chapter. For each Vision Goal there will be a summary of the more significant recommended actions. A complete list is shown in the separate 2011 Master Plan – Action Plan, and action items are more fully elaborated in the consolidated Master Plan itself. Persons selected to work action items should review the Master Plan document to obtain amplifying information.

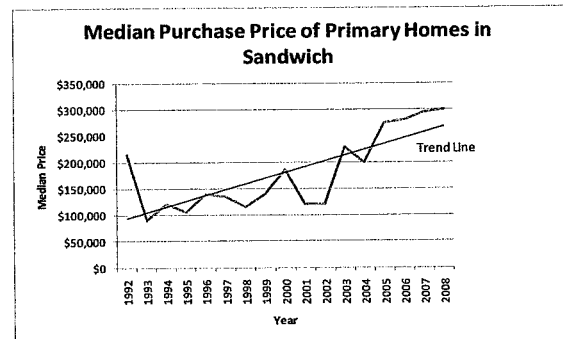
POPULATION AND HOUSING

- *Residents are better educated, but generally older than the region or state.*
- *While the number of homes has increased, cost has risen dramatically.*

The population of Sandwich has more than doubled since 1970 – from 666 to 1,366 in 2007, and is projected to reach about 1,800 by 2030. Sandwich has a higher median age than that of the region and state, at 47.2 years, reflecting a relatively large number of retired individuals. There is also a higher percentage of children under 19 years of age, suggesting that younger families are beginning to reside in Sandwich. On average Sandwich residents do not move as much as residents elsewhere in the county or state.

Sandwich residents are considerably better educated than those in either the county or state – having a higher percentage of both high school and college graduates. Sandwich also has a higher percentage of married couples than the state. Median family income has risen faster in Sandwich than the county or state, but it remains just below the state average. Sandwich has a smaller percentage of families below the poverty level than the county or state.

The total number of housing units has increased by 24% since 1990 and 80% of the homes are owner occupied. Sandwich has a considerably smaller percentage of multi-family housing units than the county or state. Compared to the state, Sandwich has a higher percentage of homes built before 1940, indicating that housing construction since then has been slower than county or state averages. The price of housing has increased dramatically since 1993—threefold in 15-years. Based on the new state law definition of an “affordable”



home, 26% of the homes in Sandwich meet that standard.

Issues and Challenges

Sandwich continues to see new housing construction, but the supply of multi-family and rental housing is not keeping pace with county and state averages, limiting housing choice. And the cost of housing continues to rise.

Summary of Actions

Vision Goals

#1: *Allow for modest growth of residential development that is of a size, design and quality that is compatible with Sandwich's small town, rural character and recognizes Sandwich's changing demographics.*

#2: *Provide reasonable opportunity for housing choice so that greater age and income diversity can be achieved.*

To achieve these goals:

- Review and, where appropriate, update land use regulations to encourage a variety of housing types.

NATURAL RESOURCES

Sandwich is Rich in Natural and Scenic Resources

- 52,000 acres of forested land, about 85% of its total land area.
- 24,623 acres of soils that are classified as good to excellent agricultural soils.
- 2,366 acres of surface waters.
- 96 miles of rivers and streams.
- Over 6,000 acres of wetland resources.

The desirability of visiting and living in Sandwich is related to this abundance of natural resources. Eighty (80) % of the respondents to the community survey indicated the town was doing enough to protect these resources.

Close to 40% of Sandwich is in Protected Open Space or Conservation Lands

In total, 22,986 acres or 38.2% of Sandwich has been set aside for conservation and open space. The White Mountain National Forest comprises over 17,000 acres while another 3,240 acres of land are held for conservation by private entities or non-profit organizations such as the Squam Lakes Conservation Trust. Sandwich has been very diligent in setting aside valuable land for conservation and open space and currently owns or has easements on 2,430 acres.

Current Regulations Indicate Commitment to Resource Protection

Sandwich is committed to protect water quality for recreation, aesthetics, aquatic life, flood control drinking water, fish and wildlife. This commitment is expressed in the Sandwich Zoning Ordinance that includes sections on wetlands protection, steep slope protection and cluster

development that protects open space areas. The Shoreland District also provides for stricter use regulations and certain activities within the district.

Sandwich has Scenic Beauty

In the first Master Plan public forum in May, 2008 the participants identified several strengths of Sandwich that relate to its scenic quality. Examples of scenic resources include: Wentworth Hill, Top of the World Road, Beede Falls, Whiteface Intervale Road, and Durgin Bridge over the Cold River. The natural and cultural landscape of Sandwich provides many residents with a real sense of pride and community,



distinguishing it from many other New Hampshire communities.

Among regulatory policies for protecting the town's scenic quality is the designation of a Skyline Zoning District that limits uses to agriculture, forestry and recreation. There is also a Steep Slope Protection provision in the Zoning Ordinance that limits activity on slopes greater than 15%.

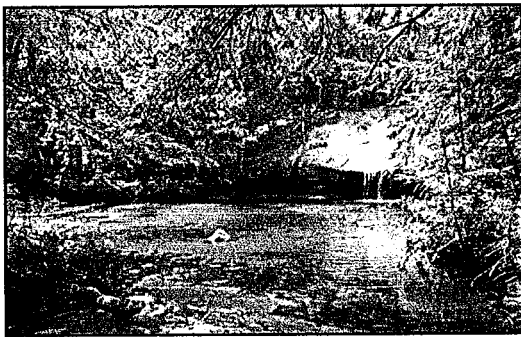
Issues and Challenges

The residents of Sandwich strongly identify with the town's natural and scenic

resources. It is important to maintain current policies and regulations to protect these resources as well as to consider additional policies and programs to ensure the long-term scenic quality of the town.

Some of the challenges that Sandwich may face in the future include:

- Maintaining the quality and quantity of its forests and agricultural resources;
- Providing a high level of water quality through shoreland and wetlands protections;



- Potential for increased land development and associated stormwater runoff;
- Maintaining the scenic quality of Sandwich; and
- Introduction of invasive species, e...g. milfoil, into its ponds and lakes.

Summary of Actions

Vision Goals

#3: Protect historic resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.

#4: Support and encourage acquisition and management of high value conservation and open space lands that are linked by trails and/or wildlife and natural resource corridors.

To achieve these goals:

- Consider ordinance changes to better protect prime wetlands, aquifers, shorelands and lower order streams and enhance floodplain management.
- Expand current water quality monitoring to include all watersheds.
- Identify and develop strategies to protect high-value natural and visual resources.
- Encourage educational and outreach programs related to the protection and long-term stewardship of Sandwich's natural resources.

LAND USE

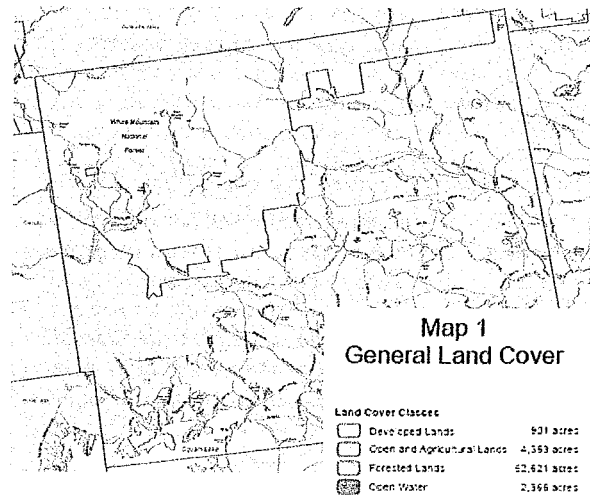
Sandwich—Geographically Large with Limited Development

With over 60,000 acres or approximately 94 square miles, Sandwich is one of the largest communities in the state. About 17,000 of these acres, or about 29% of the town, are within the White Mountain National Forest. Over 90% is undeveloped, the remainder being devoted to single family homes. Most of the undeveloped land is forested (85%). Agriculture and open land comprises about 8% of Sandwich. These figures reveal the fact that Sandwich is inextricably linked to its natural resource base of forests and open lands. See Map 1, General Land Use/Land Cover.

When asked what Sandwich should look like 20 years from now the highest response by far was: *rural, quiet, much like today*. There were also responses ranging from favoring no growth to having: *slow reasonable growth*.

Issues and Challenges

Since much of Sandwich is undeveloped, it will be important for the town to manage the remaining lands in a manner that protects its rural and village character. Encouraging environmentally sound forest management and agricultural activity is critical to maintaining this character. Sandwich has developed a set of land use regulations that are aimed at protecting and conserving its natural and scenic resources. With continued growth, the town will need to review and update these regulations to ensure its' rural and village character is protected and maintained.



Summary of Actions

Vision Goal

#1. *Allow for modest growth of residential development of a size, design and quality that is compatible with Sandwich's small town, rural character and recognizes Sandwich's changing demographics.*

To achieve this goal:

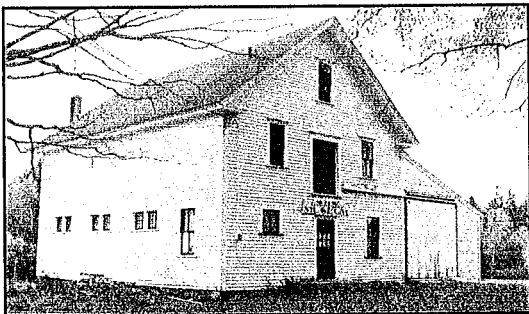
- Protect Sandwich's valuable forest and agricultural resource base by maintaining and enhancing existing unfragmented lands and active farming and forestry activities.
- Implement a digital information system that will link both spatial and factual community information into an integrated data base.
- Implement land use regulations that enable growth to be managed in a manner that will maintain Sandwich's rural and village character.

HISTORIC RESOURCES

A Key Component to the Image of Sandwich

Based on the community survey and public forums, the citizens of Sandwich identified protection of its historic resources as a high priority. The historic landscape is a reflection of the town's agricultural past, including both the rural areas as well as the village areas where agricultural products were processed and sold; supportive businesses and civic institutions thrived. The Town's historic resources—buildings, cemeteries, stonewalls, and views—are essential components of the charm which residents and visitors alike find so compelling. The preservation of historical resources is important not only to maintaining the image of the town, but also to providing a source of economic activity.

Sandwich began as a community of farmsteads, churches and schools. Soon clusters of homes, mills, and businesses grew up around small villages like Center Sandwich. While many of the early buildings no longer exist, there were enough in Center Sandwich and Lower Corner for those areas to be listed as districts on the National Register of Historic Places. Today there are approximately 85 historic cemeteries, numerous historic



homes and churches and a number of former schools most of which now have different uses.

Both the Sandwich Historical Society and the Historic District Commission are local organizations that work to protect and preserve the town's historic resources through specific projects or regulating building changes in Center Sandwich.

Issues and Challenges

While the community has done much to protect its historic resources, such as through the designation of Center Sandwich as a local Historic District, there will be further challenges as the community grows and changes. The key challenge will be to preserve the town's historic rural and small town character while managing change and growth.

Summary of Actions

Vision Goal

#3. Protect Sandwich's historical resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.

To achieve this goal:

- Protect and preserve historic and cultural resources.
- Preserve and enhance the scenic and historic quality of the rural landscape and roadways.
- Maintain historic educational programs that enhance citizen awareness of our history.

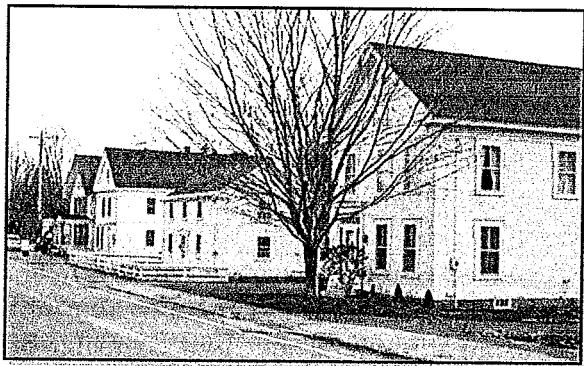
VILLAGE CENTERS

Village Centers have Historic Roots & Serve as Community Focal Points.

Sandwich has several places that have been called villages at various times in the town's history including: Center Sandwich, North Sandwich, Sandwich Lower Corner, and Whiteface.

While most of these locations may have been population centers in the past, not all can be considered viable centers today. A viable village needs to have a concentration of buildings, contain a mix of land uses and most importantly serve as a focal point for the community. In that context, Center and North Sandwich fit those standards, although to differing degrees.

North Sandwich has a Post Office, concentration of buildings, a park and a general store, but is smaller than Center Sandwich. Center Sandwich is generally



regarded as the activity center of the entire community owing to its greater number and concentration of buildings and its mix of residential, retail, government and institutional uses. This activity is reinforced by the areas historic character that is

recognized through its listing on the National Register of Historic Places and the local Historic District designation.

Issues and Challenges

Sandwich places a high value on its villages. Participants in the community survey expressed strong support for the historic architecture in the village, the fact that it is well maintained and that its setting is enhanced by the surrounding open space and the views that it offers. The challenge for Sandwich will be how to maintain this village character as the town grows in the future. There are several issues that need to be considered including permitted uses, land use standards, Historic District design standards and infrastructure

Summary of Actions

Vision Goal

#5. Preserve the town's rural, small town character and the traditional New England style of its villages.

To achieve this goal:

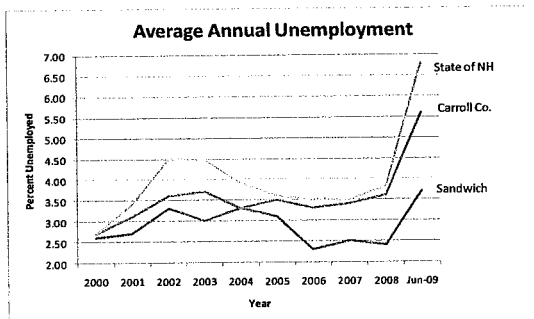
- Maintain the ambiance and character of the existing village centers – Center Sandwich and North Sandwich.
- Adopt design standards for the Historic District and for any future village districts that are consistent with the traditional New England village.
- Provide infrastructure to support future needs within the villages.

ECONOMIC BASE

A Community of Small Businesses

The citizens of Sandwich have regularly expressed their desire to remain a rural, small town and not seek to become a community with large scale commercial or industrial development. The results of the recent community survey and public forums highlighted the desire for home-based and small, limited business activity such as retail and professional services.

The town has continued to have slow, but steady, growth in employment over the past 20 years and a consistently lower unemployment rate compared to the county and state, even in the recent recession. Employment in Sandwich is characterized



by high levels of self-employment and a dominance of small businesses employing fewer than 10 people. Other characteristics that define the town's current economic condition:

- Sandwich has a small number of small businesses that provide relatively stable employment.
- More than half of the occupations of town residents are found in construction, education, health care, social services, arts/entertainment, and accommodations/food services.

Mo

- 26% of workers are self-employed, compared to only 8% for the state.
- More than 88% of the assessed value of the town is in single family homes.

Issues and Challenges

The challenge for Sandwich will be to maintain its small town character and still offer the businesses, services and jobs that residents are seeking. Although only 4% of the town's workers earn their living in agriculture, forestry, fishing and hunting, there is a strong link between these vocations and the significance that Sandwich residents place on protecting the town's rural character.

Summary of Actions

Vision Goals

#6. Provide opportunity for limited village business activity that is consistent with the architectural qualities that the town values.

#7. Encourage home occupations that are compatible with, and supportive of, the town's rural character.

To achieve these goals:

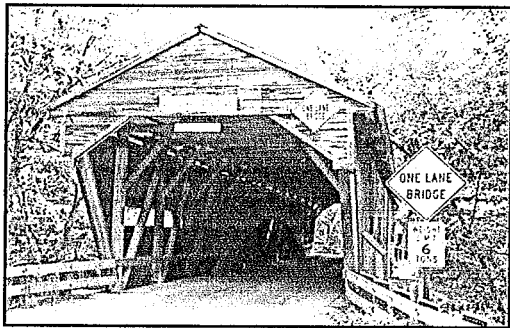
- Promote a limited mix of residential, retail and office uses compatible with the existing visual character of the village and rural character of the town.
- Encourage home occupations that are compatible with the rural character of Sandwich.
- Encourage businesses that maintain and enhance the value and sustainability of the town, including its forests, fields and other natural resources.

TRANSPORTATION & CIRCULATION

Roadway System—a mix of gravel country roads and two-lane paved highways.

Sandwich's roadway system ranges from rural gravel country roads that have changed little over the past 20-30 years to a two-lane arterial state highway that passes through the eastern portion of the town. Associated with the roadway system are much more limited facilities for bicycles and pedestrians, mostly in Center Sandwich. A recently started mini-bus service is available to Sandwich residents and Concord Trailways can be picked up in adjacent towns.

Within Sandwich there are several regional transportation routes that carry the majority of long distance travel both within and to and from the town. These include NH Routes 25, 109, 113, 113A, Squam Lakes Road and Little Pond Road. All of these roads are maintained by NH DOT. There are approximately 65 miles of locally maintained paved and gravel roadways. The NH DOT and the Town Department of Public Works are responsible for bridge maintenance and construction. There are 27 bridges in Sandwich—11 under the



jurisdiction of DOT and 16 under the jurisdiction of the town. Bridges are

inspected every 2 years and 3 bridges are in need of repair, the Durgin, Young Mountain and Quaker Whiteface. The town has commissioned an engineering study to assess the locally-owned bridges and prepare a long term work program and cost estimates for upgrading them.

Sandwich has a relatively large network of roadways for a population of 1,300 people. In 2009 this cost of roadway upkeep and maintenance was approximately \$500,000 or the equivalent of \$7,600 per mile annually. At the 2010 Town Meeting \$648,000 was voted for roadway projects and funding.

Traffic Volume Change is Modest

Over the past 10 years the volume of traffic has increased only modestly. There are no heavily travelled roadways within Sandwich and there is little to no congestion. There does not appear to be a significant trend in the number of accidents, ranging from 28 in 1995 to 42 in 2008, in spite of population increase.

Issues and Challenges

Sandwich has a significant local roadway network. Although the increase in vehicular traffic should be modest over the next 5-10 years, the town will still face regular maintenance and upkeep of this system. This activity will continue to be a significant portion of the town's budget. The town may also want to provide more facilities for biking, walking, etc.

Summary of Actions

Vision Goal

#8. Pursue a balanced transportation system with well-maintained public roadways lined with stone walls, open fields and trees; and encourage opportunities and facilities for pedestrians, bicyclists and recreational users.

To achieve this goal:

- Maintain and improve the current roadway system to provide efficient traffic flow along the major roadway corridors while maintaining a safe environment for pedestrians and cyclists.

- Encourage, develop and maintain a range of non-automotive transportation alternatives that are easily available to the residents of Sandwich including walking trails, sidewalks and bike paths and trails.
- Promote transportation policies and improvements that are consistent with the town's policies for protection of natural and historic resources and minimize the impact on residential neighborhoods.
- Participate in the coordination of state and local transportation planning that addresses both local and regional needs.

ENERGY

Energy Committee Established

As a result of increasingly heavy United States reliance on foreign oil and concerns about climate change, many public entities are making efforts to better understand and manage energy consumption and the use of non-renewable energy in the U.S. With the exception of a handful of homes that use renewable energy sources in Sandwich, nearly all of the town's energy is imported. Statewide 24% of the petroleum products come from outside the U.S. It has been estimated that Sandwich residents use the energy equivalent of 2.8 million gallons of gasoline per year.

At the 2007 Town Meeting, the voters established the Sandwich Energy Committee *to promote energy conservation and the use of renewable resources for municipal, business and home use for the townspeople of Sandwich.* The Energy Committee has already spearheaded several efforts to document and reduce energy consumption in town buildings and inform the community about energy conservation opportunities.

Issues and Challenges

Sandwich has many opportunities to both reduce the amount of energy that is consumed and switch to local and renewable sources. Approximately one-quarter of the homes in Sandwich are heated with wood and more than 10% have begun to use more advanced renewable energy sources such as solar and geothermal. With an estimated 35,000 acres of non-federal land in Sandwich that is

forested, it would take less than 7,000 acres to heat all of the buildings in town with wood – on a sustainable yield basis. A new state statute (RSA 53-F) *Energy Efficiency and Clean Energy Districts* enables municipalities to finance energy conservation and clean energy improvements to private properties that are paid off through the resulting energy savings to individual utility bills.

Summary of Actions

Vision Goals

#9. *Encourage a sustainable community, one that meets our present needs without compromising the ability of future generations to meet their needs.*

Two other Vision Goals also have important connections to the “sustainable community” goal. Vision Goal #10 seeks to provide municipal services in a cost effective manner – that includes serious exploration of energy efficiency efforts that can improve services and/or reduce overall costs. Vision Goal #8 refers to provision of a balanced transportation system, including facilities for pedestrians and bicyclists.

To achieve these goals:

- Undertake Energy Efficiency Improvements in all areas of town government, including buildings, vehicles and operations.
- Seek ways to reduce the amount of energy that is used for transportation throughout Sandwich.

COMMUNITY FACILITIES & SERVICES

Sandwich Supports a Range of Community Facilities and Services

One of the primary responsibilities of local governments in New Hampshire is to provide an adequate level of community facilities and services including maintaining roads, maintaining law and order, fire protection, emergency medical response, educational opportunities, solid waste management, recreation and open space opportunities, and library services.

Police—The department is housed in a single building. A storage shed was constructed on the site in July 2010. The department has two vehicles—a 2010 Ford Expedition and a 2008 Ford Expedition. In 2009 annual department expenditures were \$191,818. The department building lacks ADA accessibility, adequate interview or storage space.

Fire and Medical—There are two fire stations—the Central Station in Center Sandwich and the Whiteface Station on Whiteface Road. A third building—the Old Fire Station—is used only for storage. The fire department has six vehicles—four devoted to fire fighting, one to rescue, and a command vehicle. The newest piece of equipment is a 2004 KME engine. The major issues for the department are the need for adequate space at the Central Station and the availability of qualified volunteers.

Highway/Public Works—The department has one major building and several smaller buildings located in North Sandwich. The highway department has five dump trucks

that also serve as plow trucks; a grader, pick-up truck, backhoe, bucket loader and chipper. The main building is in fair to poor condition and the roof needs to be replaced eventually.

Town Hall—located in Center Sandwich; constructed in 1915. It houses the offices for town administration and town clerk functions. The 2006 *Sandwich Building Assessment Report* and 2008 Town Hall Building Committee Report recommended increased energy efficiency through heating, ventilating, lighting and window upgrades; enlarged/modernized workspaces and meeting room, more storage space and ADA accessibility to the second floor.



Solid Waste—the transfer station is located off NH Route 113 and handles both trash and recyclable materials. It has a trash compactor for household waste and a container for single-stream recycled materials. The facility has several issues, including a constricted traffic flow and limited storage areas.

Sewer System—The 28-year-old system, located in Center Sandwich, serves 74 properties and comprises two pumping

stations, nearly 8,000 linear feet of pipe , settling tanks and four leach fields. The system is a user funded system and managed by the Sewer Commissioners. It is currently at or near capacity and has ongoing system infiltration issues which need to be resolved.

Samuel H. Wentworth Library—The Library is located in Center Sandwich and was dedicated in 1915. In 1971 a two-story 3,000 square foot addition was constructed to the rear of the original building. The main level of the original building houses most of the library's collection. The library has increased its broadband availability and is planning to make devices such as electronic readers and mp3 players



available for loan to patrons. Circulation continues to grow, reaching 21,555 in 2009. Over the next 5-10 years the library expects to need: Web-based circulation software, electrical system upgrade, hardware for loan to patrons such as portable DVD players, mp3 players, electronic readers, restoration of original historic vaulted ceiling and ADA compliance.

Sandwich Central School—Built in 1950, the school was operated by the Sandwich School District until 1963 when it was annexed by the Inter-Lakes School District. The auditorium/cafeteria addition was completed in 1990. The present configuration includes 7 classrooms, 1 resource room, 1 cafeteria/auditorium/gymnasium, a library and

central office. Since 1993-4 enrollment tapered off to a low of 62 in the '07-'08 school year. Total enrollment has increased in the '09-'10 year to 79. Students are merged in grades k-1, 2-3 and 4-5. Grade 6 is a stand-alone class. Because of the school's small size in relation to the rest of the Inter-Lakes facilities, the town needs to continue its advocacy for the viability of the school.

Parks and Recreation—The Parks and Recreation Department is housed in the basement of the Post Office Building, and has a nearby storage shed that is being renovated. There are 17 recreational facilities within Sandwich including parks, swimming areas, and conservation land. Compared to national standards the town is well served with recreation facilities. Needs include: renovation of Quimby Field and Sunshine Park, and new programs to serve adult populations.

Communications Infrastructure –

Townpeople place great importance on the availability of quality internet, cell phone and television services. In the past, people were reliant on slow dial-up procedures for internet access but today, many rely on faster wireless and satellite facilities, although service is not community-wide. Townpeople can access the internet at no cost at the Wentworth Library. Recently, high speed internet lines have become available in certain areas, including Center Sandwich, and it is anticipated that these will eventually reach most parts of town.

Volunteerism—Sandwich has many volunteer groups and relies heavily on the high rate of volunteerism in the community. In the first community forum for the Master Plan, the second highest ranked attribute of Sandwich was "active, caring, open community". In

addition to town citizen boards and commissions, there are almost twenty volunteer groups.

Summary of Actions

Vision Goals

#10. Provide, in a cost effective manner, the quality and level of municipal services and facilities that are enjoyed in Sandwich today.

#11. Encourage modern communication facilities, systems and services to meet the needs and diversity of Sandwich's residents and businesses now and in the years to come.

#12. Encourage and foster high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level.

To achieve these goals:

- Update the Capital Improvement Plan annually. As part of this process work with town department heads to justify short and long-term capital needs.
- Encourage high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level. (Vision Goal 10).
- Facilitate a range of options to provide full television, telephone and high speed internet service to the entire community.

Sandwich 2011 Master Plan



Sandwich, New Hampshire

February 17, 2011

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Introduction and Vision Statement

The Master Plan is a Blueprint for the Future

This Master Plan for Sandwich is a publicly prepared “blueprint” or document that represents the citizens’ view of what the town should look like in ten to twenty years (The Vision) and how they intend to achieve it (Implementation Guide). This document includes maps, charts and supporting text that describe current conditions and trends within Sandwich. This plan also addresses issues of concern, such as protection of rural character, and provides guidance to help the community manage change and develop in a manner that is orderly and meets its Vision.

Master Planning has a Legal Basis

In New Hampshire, one of the major responsibilities of the Planning Board is to prepare and update Master Plans (RSA 674:1-4). It is recommended that these plans be updated every five to ten years.

“The purpose of the master plan is to set down as clearly and as practically as possible the best and most appropriate future development of the area under the jurisdiction of the planning board, to aid the board in designing ordinances that result in preserving and enhancing the unique quality of life and culture of New Hampshire.....” (RSA 674:2)

Sandwich Has an Existing Plan with Updates

Sandwich has a long history of planning and zoning. In the late 1970’s, it adopted its first zoning ordinance as a means to protect and enhance its rural character while accommodating growth. Its first full Master Plan was completed in 1970 and rewritten in 1981 with the assistance of the Lakes Region Planning Commission. The Plan was partially updated several times since then including 1997, 2002, 2003 and 2005. The 2003 Plan Update had an extensive section on the various community and social organizations in Sandwich and how they contribute to the town’s fabric. While this Plan Update identified a number of issues, it provided only limited recommendations to guide future growth and change. The 2005 Plan Update concentrated on Land Use, Economic Base and Recreation. During the last 30 years, the town conducted several community surveys and forums to better gauge the community’s attitudes toward growth, resource protection and community services. Consistently, the town identified several important community values that provided the foundation for plan updates:

- Protection of the natural, historic and scenic environment, and
- Providing opportunity for economic growth consistent with the community’s rural character

The Sandwich Planning Process

The current Master Plan process began in the spring of 2008 with the selection of the Master Plan Update Committee by the Planning Board. The Committee members represent a broad range of the Sandwich Community. Since the Master Plan had not been fully updated since 1981, the Committee felt a significant effort would be required to produce a credible and useful document. To assist in this effort, the Committee selected Mettee Planning Consultants. Before the process began, the Town Meeting committed community funds to the project in March 2009 with a second vote in the 2010 Town Meeting with a 50% contribution from the Quimby Fund. With the support of the town, the Committee then set out an ambitious program to develop the 2011 Master Plan. This effort included a Community Survey, three public forums, numerous drafts of various sections of the Plan and dozens of meetings over the past two years. The result is a completed Master Plan that is in three parts:

- *An Executive Summary* that provides an overall view of the Master Plan Update and identifies areas for future action.
- *An Implementation Guide* that provides a list of the Master Plan recommendations, a priority rating for each and the entity responsible for completing the action.
- *A Complete Master Plan* that includes a full inventory and assessment of the community along with an Action Plan for each chapter.

The Community Has Spoken

The Committee was very keen on soliciting as much input from the community as possible in an effort to reflect their views in the Master Plan Update. The first step in this process was to prepare and disseminate a Community Survey. This effort was followed by three community forums that delved deeper into some of the opportunities and issues highlighted by the survey.

Community Survey—Key Results

- Most community services rated well except for state roads.
- *Choices for future initiatives*-The highest rated:--Acquisition of additional land for conservation (65%); implementing digital system for tax maps, town records (59%)
- *Read the Town Newsletter*: (79%)
- *Preferred housing*:--single family homes (50%); adding “mother-in law “apartment (71%); senior housing (57%)
- *Changes to town roads*:--Bicycle paths/lanes/trails (59%); increased rebuilding of existing paved roads (57%); increased rebuilding of gravel road beds (58%); better ditching (57%)
- *Preferred future activities to be encouraged*: (all greater than 50%) -tourism, arts/crafts businesses, home business, professional offices, agriculture, health practices, B&B's/inns, and restaurants/cafes/coffee shops

- Generally satisfied with protection of town's natural resources.
- *Historic District*:--permit modern bldg. methods/materials (80% yes); more businesses if consistent with current building style: (71% yes)
- *View of Sandwich 20 years from now*:—highest rating = rural, quiet, much like today
- *Most important to future of town*:—highest rating = Maintaining our rural, small-town character

Forum 1

This first community forum was held in May of 2009 to determine the strengths and challenges facing Sandwich. Strengths included the town's:

- natural and water resources,
- small town and community character, and
- active and caring attitude.

Challenges included the need:

- for more jobs/retail/services
- to maintain municipal services without raising taxes
- to retain high levels of social connectivity/volunteerism
- to embrace sustainability/climate change and energy conservation

Forum 2

Held in August of 2009, this forum considered more closely two of the major themes from the first forum in May—natural resources and economic opportunity. Based on discussion in small groups the following actions were suggested.

For natural resources:

- Greater municipal intervention in land use regulation to protect natural resources and water quality
- More effort to protect land through acquisition & easement
- Provide more educational outreach about importance of natural resource protection
- Protect and enhance opportunities for agriculture

For economic opportunity:

- Improving Internet access
- Keeping the Central School viable
- More diversified and affordable housing
- Encouraging economic development
- Encouraging a green economy (sustainable energy, buy local, sustainable land use/agriculture-forestry)
- Promoting local agriculture and forestry

Forum 3

This forum was held in November of 2009 and focused on two major issues for the town:

- Techniques for protecting rural character
- Protecting and managing village character

The “rural character” group generally recognized that relatively large residential subdivisions were not likely to occur in the near term. However, they also felt that in the long term an improved cluster or Open Space Development (OSD) regulation that provides high quality open space is an approach the town should consider. This would help to preserve the town’s rural character.

The Village Character Group identified several items for consideration:

- Study the Center Sandwich sewer capacity and options
- Re-examine village land use regulations
- Encourage tax incentive programs for historic preservation and maintenance
- Encourage sustainable village energy system or district

This community outreach effort along with the inventory of Sandwich’s assets led directly to the Master Plan Vision as presented below.

The Vision—The Future of Sandwich

The following vision statement reflects Sandwich’s common values and defines the future of the town—a community that will be prepared to accommodate modest growth and change while preserving its existing rural and village character. It also offers the guiding principles and priorities upon which this Master Plan is based. While the vision does not have the force of law, local officials and the public should consider the Vision Statement in all local plans, actions and decisions.

THE VISION

Sandwich Should:

Remain a highly desirable place to live and work by retaining its quiet, rural, small-town character through protection of its valuable natural resources, preservation of its cultural and architectural heritage and scenic beauty;

Be vibrant and diverse by promoting social, cultural, housing, and recreational opportunities for all age groups;

Maintain its high quality of community facilities and services in a cost effective manner; and

Provide opportunities for employment and small-scale businesses consistent with our rural character.

Vision Goals

To maintain these qualities for our community now and in the future, Sandwich will strive to:

1. *Allow for modest growth of residential development of a size, design and quality compatible with Sandwich's small town, rural character and recognizes Sandwich's evolving demographics.*
2. *Provide reasonable opportunity for housing choice so that greater age and income diversity can be achieved.*
3. *Protect historic resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.*
4. *Support and encourage protection and management of high value conservation and open space lands that are linked by trails and/or wildlife and natural resource corridors.*
5. *Preserve the town's rural, small town character and the traditional New England style of its villages.*
6. *Provide opportunity for limited village business activity (e.g., general store/professional offices) that is consistent with the architectural qualities that the town values.*
7. *Encourage home occupations that are compatible with and supportive of the town's rural character.*

8. *Provide a balanced transportation system with well-maintained public roadways lined with stone walls, open fields and trees; and encourage opportunities and facilities for pedestrians, bicyclists and recreational users.*
9. *Encourage a sustainable community, one that meets our present needs without compromising the ability of future generations to meet their needs.*
10. *Provide, in a cost effective manner, the quality and level of municipal services and facilities that are enjoyed in Sandwich today.*
11. *Encourage modern communication facilities, systems and services to meet the needs and diversity of Sandwich's residents and businesses, now and in the years to come.*
12. *Encourage and foster high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level.*

The Future of Sandwich is tied to Future of the Region

Although the focus of this Master Plan is the Town of Sandwich, the town is also part of a larger region that sits in a transition area geographically between the Lakes Region and the White Mountains. Actions that Sandwich may take to implement its Master Plan will affect such adjacent communities as Tamworth and Center Harbor. Similarly actions that adjacent communities may take will also affect Sandwich.

The primary connection among area towns is the roadway system that is described in its regional context in the Transportation Chapter. Changes to these roadways or increased development in adjacent communities may have impacts in Sandwich. Many of the area's natural resources and open spaces as described in the Natural Resources Chapter are also intertwined. Since Sandwich sits at the headwaters of three watersheds, any activities in these area affecting surface waters will have an impact on the downstream waters of adjacent communities. The aquifer area in eastern Sandwich extends into Tamworth and Ossipee. Appropriate land use regulations to protect this resource need to be considered in all communities. There are also a number of conservation areas and trails that cross town boundaries. Management and maintenance of these will take cooperation from members of all area communities.

At present, there are a number of areas of cooperation in place including the practice of mutual aid and assistance for fire/safety and police. Sandwich schools have been consolidated internally over the years and as of the 1960's the single Central School has become part of the Inter-Lake School District. As municipal budgets increase there may be opportunity for greater cooperation among area communities.

Finally, the Planning Board has the responsibility of considering the regional impacts of development as per RSA 36:54-57. Area community planning boards have the same

responsibility. An area of opportunity may be the consideration of consistent land use regulations that would benefit the region.

Many People Contributed to this Master Plan

Among the groups that assisted with the preparation of this plan was the Master Plan Update Committee established by the Planning Board. Over a period of almost 3 years this group met, selected a consultant and worked diligently with the consultant for 18-months to develop the final plan. This committee included:

Carroll Bewley, Chairman
Janet Brown
Joan Cook
Gerry Gingras
Linda Marshall

Susan Mitchel
Adam Peaslee
Roger Plimmer
Boone Porter

Town Hall staff members were also particularly helpful in providing information to the Consultant Team and answering the many questions the Team had about Sandwich. Assisting the Committee and the Consultant Team were the Conservation Commission and in particular Rick Van de Poll who provided much input into the Natural Resources Chapter of the Plan. Ronald Lawler provided data on timber harvesting, the Energy Chapter, and suggestions on the Housing Chapter. The Historic District Commission provided helpful insights and suggestions on the Village Center Chapter, while the Sandwich Historical Society and staff were very helpful in providing resources for the Historic District Chapter, in particular Joan Cook and Tom Shevenell. Town Department Heads were also instrumental in providing information about the various community facilities and services.

Master Plan Approval

This Master Plan was approved by the Sandwich Planning Board on February 17, 2011.

Next Steps—Plan Implementation

This Master Plan should be considered a work plan to be implemented over the next five to ten years. During this period the Planning Board and other relevant town boards should work cooperatively to ensure the plan recommendations are considered and implemented. The Implementation Guide will greatly assist the Board in determining priorities. This Guide should be reviewed annually and adjustments made as needed. In this way the Master Plan will be a living document and not a plan that “sits idly on the shelf”. By approximately 2016, the Planning Board may want to update this plan.

1. Population & Housing

Understanding current population and housing characteristics and future trends is an important foundation for shaping the community's perspective on its future. Total population, rate of growth, long-term population projections and the characteristics of Sandwich's various population groups and its housing can have an important influence on land use, community services and facilities and traffic. Town officials should consider this information when crafting revisions to land use and housing policies and regulations as well as timely and efficient provision of community services.

POPULATION - *Existing resident population has longer tenure in the community, is on average, better educated and older, than state averages. Sandwich also has a higher percentage of households that receive social security or retirement income than either the surrounding communities, the county or the state.*

Historic Trends – *Sandwich has more than doubled in Population since 1970.*

Sandwich has more than doubled in population since 1970 from 666 to 1366 in 2007. The rate of population growth in Sandwich has been consistent with that of the other communities in the region and the state. During the 1980's and 90's Sandwich grew at a slower pace than other towns in the area and Carroll County, as shown in Figures 1-1 and 1-2. Between 1990 and 2007 the rate of growth was still a little behind the county growth rate, but keeping pace with several area towns such as Center Harbor. Moultonborough, on the other hand, grew more rapidly in each decade since 1970.

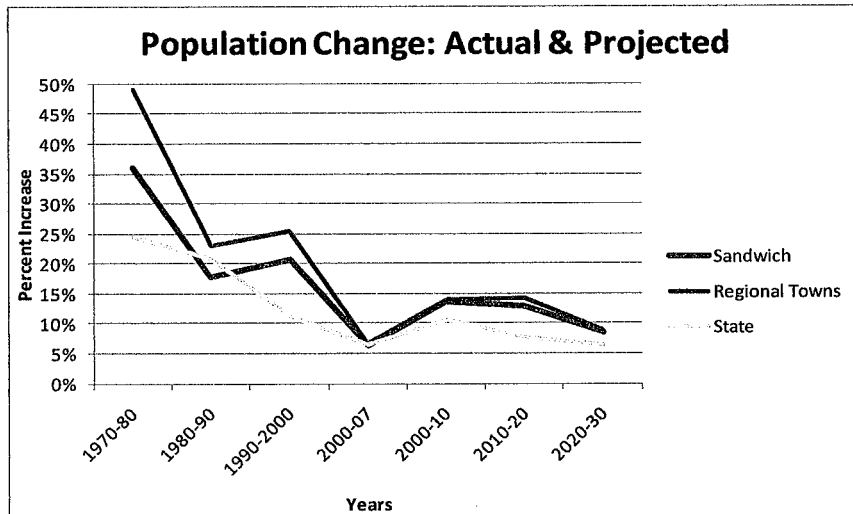
Population projections prepared by the State Office of Energy and Planning (OEP) forecast continued population growth in town, but not at the same rate as in the past several decades. The OEP projections suggest that Sandwich will grow at about the same rate as all of Carroll County. Those projections also show that the town is expected to grow at a much faster pace than the state of New Hampshire. Figures 1-1 and 1-2 illustrate past trends and future projections. Figure 1-2 highlights the growth trends and projections for Sandwich, nearby towns and the state.

Figure 1-1: Sandwich's Recent Population Growth and Projections

	Census Population				OEP Est. OEP Projections			
	1970	1980	1990	2000	2007	2010	2020	2030
Sandwich	666	905	1,066	1,286	1,366	1,460	1,650	1,790
Center Harbor	540	808	996	996	1,088	1,180	1,290	1,380
Holderness	1,048	1,586	1,694	1,930	2,077	2,080	2,250	2,390
Moultonborough	1,310	2,206	2,956	4,484	4,897	5,210	6,120	6,730
Tamworth	1,054	1,692	2,165	2,510	2,638	2,730	3,140	3,440
Tuftonboro	910	1,500	1,842	2,148	2,340	2,490	2,820	3,060
Wolfeboro	3,036	3,968	4,807	6,083	6,341	6,980	7,990	8,710
Carroll County	18,548	27,728	35,410	43,608	47,324	50,370	57,040	61,820
State of NH	737,578	918,827	1,109,117	1,235,550	1,315,000	1,365,140	1,470,010	1,565,040
Percent Increase		1970-80	1980-90	1990-2000	2000-07	2000-10	2010-20	2020-30
Sandwich		35.89%	17.79%	20.64%	6.22%	13.53%	13.01%	8.48%
Center Harbor		49.63%	23.27%	0.00%	9.24%	18.47%	9.32%	6.98%
Holderness		51.34%	6.81%	13.93%	7.62%	7.77%	8.17%	6.22%
Moultonborough		68.40%	34.00%	51.69%	9.21%	16.19%	17.47%	9.97%
Tamworth		60.53%	27.96%	15.94%	5.10%	8.76%	15.02%	9.55%
Tuftonboro		64.84%	22.80%	16.61%	8.94%	15.92%	13.25%	8.51%
Wolfeboro		30.70%	21.14%	26.54%	4.24%	14.75%	14.47%	9.01%
Carroll County		49.49%	27.70%	23.15%	8.52%	15.51%	13.24%	8.38%
State of NH		24.57%	20.71%	11.40%	6.43%	10.49%	7.68%	6.46%

Sources: NHOEP and US Census

Figure 1-2: Comparison of Sandwich and Regional Town Population Change



Sources: NHOEP & US Census

Place of Birth - *Nearly 98% of Sandwich Residents were born in the U.S. and 43% were born in N.H.*

The 2000 US Census data indicate that 97.9% of Sandwich residents were born in the United States and 43.6% were born in New Hampshire (an additional 0.3% were born as US citizens but outside the United States). By comparison, 96.9% of Carroll County residents were born in the U.S. and 37.6% were born in New Hampshire. Comparable state figures show that 94.7% of NH residents were born in the U.S. and 43.3% were born in New Hampshire. Carroll County appears to have a more mobile, native-born population than either Sandwich or the state, while Sandwich has a resident population that is consistent with the rest of the state. Of the 1.8% of Sandwich residents that were born in a foreign country, 56.5% were born in "Europe" and the remaining 43.5% came from Canada.

Residency - *On a percentage basis, more Sandwich residents have lived in the same house since 1995 than have residents in the rest of the state.*

According to the 2000 census, sixty-nine (69%) percent of Sandwich residents indicated that they have lived in the same house since 1995. The comparable state figure was 55%, indicating that the residents of Sandwich were less likely to have moved during that time period. Of those who did live in a different house in 1995, 10.8% lived in a different state, as compared to 14% for all of New Hampshire.

Figure 1-3: Residence in 2000

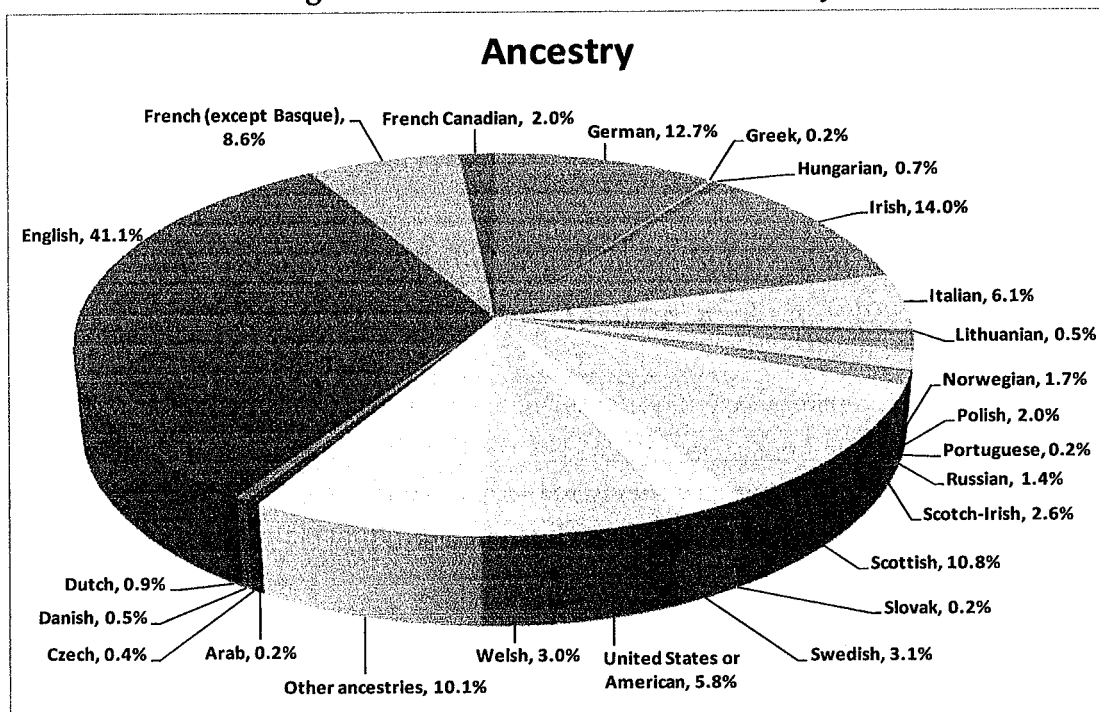
	Sandwich #	Sandwich %	State of NH %
Same house in 1995	854	69.4%	55.4%
Different House in US	373	30.3%	43.2%
Same County	165	13.4%	22.3%
Different County	208	16.9%	20.9%
Same State	75	6.1%	6.9%
Different State	133	10.8%	14.0%
Elsewhere in 1995	4	0.3%	1.4%

Source: 2000 US Census

Ancestry - Nearly all Sandwich residents are of European descent.

The place of birth statistics indicated that only 2.1% of Sandwich residents were not born as U.S. citizens. Their ancestry indicates there is a significant diversity in origin as shown in Figure 1-4. English ancestry dominates these figures with over 41%. Almost all of the listed ancestral countries are of European origin.

Figure 1-4: Sandwich Resident's Ancestry



Source: 2000 US Census

Age Distribution - The median age in Sandwich is considerably higher than that of N.H., but there is also a higher percentage of people under 19 years old.

At 47.2 years, the median age for Sandwich residents is considerably higher than that of both the state at 37.1 and Carroll County at 42.5 (see Figure 1-5). What is interesting is that the percentage of persons 19 years and under increased between 1990 and 2000. This is contrary to the trend set by both the county and state, which showed a smaller percentage of young people. The over-65 year old population in town, while higher than the county or state, rose in a pattern consistent with the county and state.

Figure 1-5: Median Age and Age Distribution

	1990 Persons 19 & under	1990 Persons 65 & older	2000 Persons 19 & under	2000 Persons 65 & older	2000 Median Age
Sandwich	21.2%	21.9%	27.8%	24.0%	47.2
Carroll Co.	25.9%	16.1%	23.7%	18.4%	42.5
State of NH	28.3%	11.3%	23.6%	12.0%	37.1

Source: US Census

Education - *Sandwich residents are considerably better educated than residents of either the county or state.*

With more than 94% of Sandwich residents having a high school diploma, town residents continue to show significantly higher levels of educational attainment than either the county or state as shown in Figure 1-6. The percentage of residents holding college or higher degrees is almost 40% and is more than 10% higher than either the county or state.

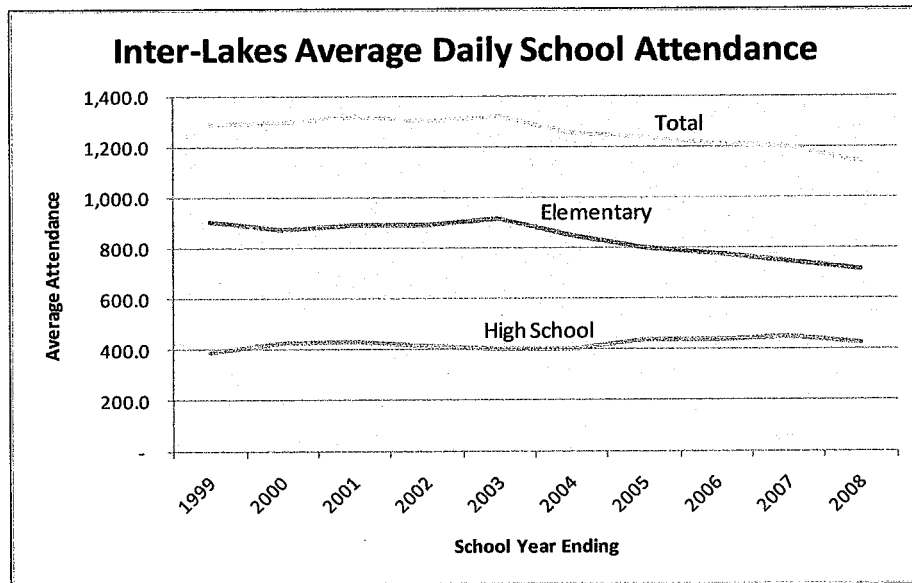
Figure 1-6: 1990 & 2000 Educational Attainment

	High School Grad or higher		4 Yr. College Grad or higher	
	1990	2000	1990	2000
Sandwich	90.3%	94.6%	39.0%	39.7%
Carroll County	83.5%	88.2%	23.4%	26.5%
State of NH	82.2%	87.4%	24.4%	28.7%

Source: 2000 US Census

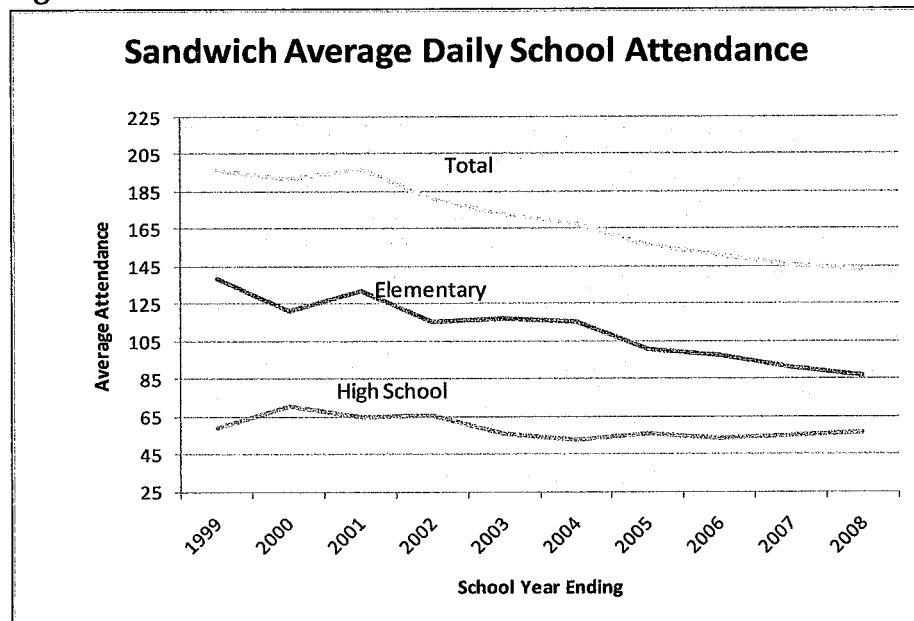
Even with continued total population growth, school enrollment figures for Sandwich and the entire Inter-lakes school district have declined somewhat over the past ten years. This trend is similar to national and regional trends and is attributable to smaller family sizes. Figure 1-7 shows the decline in school attendance for the school district, while Figure 1-8 shows the same trend specifically for Sandwich.

Figure 1-7: Inter-Lakes School District Attendance 1999-2008



Source: NH Department of Education

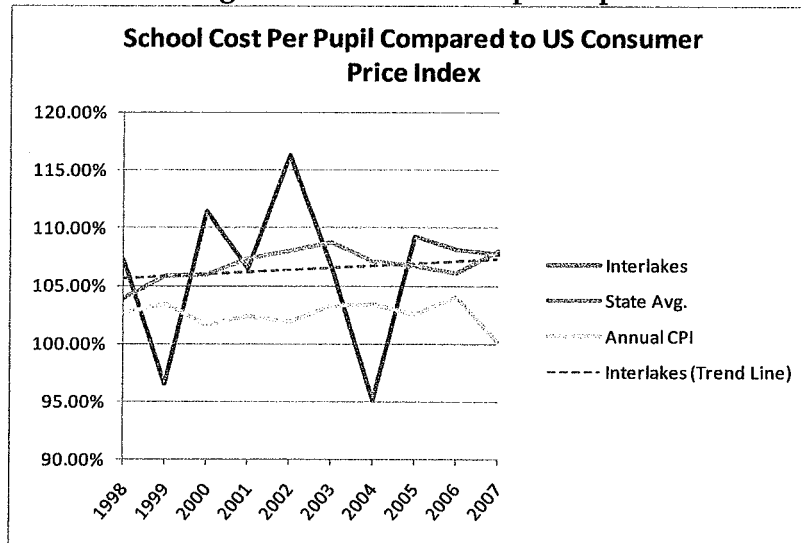
Figure 1-8: Inter-Lakes School District Attendance from Sandwich 1999-2008



Source: NH Department of Education

As a point of interest, the average cost of educating a student at Inter-lakes school district was compared to the state average and to the U.S. consumer price index. Figure 1-9 shows the results of that comparison, which indicates that the Inter-Lakes district costs are averaging very close to the state average (see the dashed trend line). Both the state and local school costs are increasing at a faster pace than the consumer price index.

Figure 1-9: School Cost per Pupil



Marital Status – *Sandwich has a higher percentage of married couples than the state*

As shown in Figure 1-10, Sandwich has a higher percentage of married persons than the state, and a lower percentage who are separated. The percentage of Sandwich residents who are either divorced or widowed is somewhat higher than the state, however.

Figure 1-10: Marital Status

		Sandwich #	Sandwich %	State of NH %
Population	15			
years and over		1,065	100.0%	
Never married		169	15.9%	24.9%
Married (not incl. separated)		681	63.9%	57.3%
Separated		6	0.6%	1.4%
Widowed		81	7.6%	5.9%
Female		73	6.9%	4.7%
Divorced		128	12.0%	10.5%
Female		68	6.4%	5.8%

Source: 2000 US Census

Income

Median family income has risen faster in Sandwich than the county or state.

Between 1990 and 2000, the median family income in Sandwich increased from \$36,417 to \$55,417 or 52.2% - faster than either the county or state. The actual 2000 median family income for the town still lagged slightly behind the state median of \$57,575, as shown in Figure 1-11.

Figure 1-11: Median Family Income: 1990 & 2000

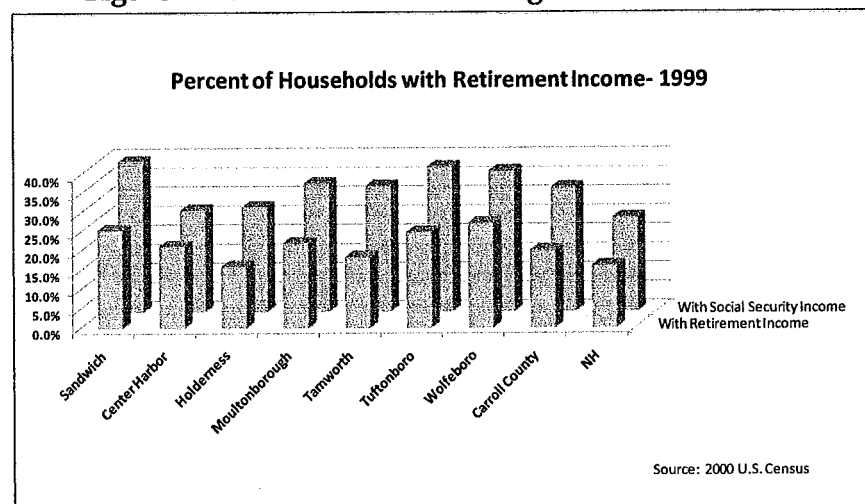
	1990	2000	% Increase 1990-2000
Sandwich	\$36,417	\$55,417	52.2%
Carroll County	\$32,308	\$46,922	45.2%
State of NH	\$41,628	\$57,575	38.3%

Source: US Census

Households with Retirement Income - *Sandwich has a higher percentage of households with retirement income than other towns in the region, the county or the state.*

Sandwich has a higher percentage of households (39.4%) with social security income and additional retirement income (25.7%) than the county or state (see Figure 1-12). The data indicate that there is a higher percentage of retirees in Sandwich than in other jurisdictions. Tuftonboro and Wolfeboro percentages are very similar to those for Sandwich.

Figure 1-12: Households receiving Retirement Income



Families in Poverty - While Sandwich has a smaller percentage of families below the poverty level than the county or state, more of those below the poverty level are headed by women.

The percentage of families at or below the poverty level in both 1990 and 2000 is consistent with the state, but below that of Carroll County. The notable exception to that trend is that in 2000 Sandwich had more female-headed families below the poverty level than in either the county or state.

Figure 1-13: Families below Poverty Level

	1990			2000		
	All Families	Families w/Female Head	Individuals	All Families	Families w/Female Head	Individuals
Sandwich	6.7%	4.7%	4.4%	3.5%	22.0%	6.1%
Carroll Co.	14.0%	5.6%	5.9%	5.5%	17.9%	7.9%
State of NH	6.9%	5.9%	4.5%	4.3%	17.6%	6.5%

Source: US Census

HOUSING - *Since 1990 Sandwich has seen a steady rate of residential development that is dominated by single family homes. Multi-family housing availability declined slightly between 1990 and 2007 offering limited opportunity for rental housing.*

Community Survey Results - *The community prefers housing that fits in with the existing smaller building styles that dominate the Sandwich landscape*

The community survey undertaken in 2009 as part of this master plan included a number of questions relating to housing in Sandwich. Responses to the question of the desirability of expanding different types of housing options produced the following responses:

- | | | |
|--|----------|--------|
| • Single family housing | Yes= 50% | No=37% |
| • Conversions of homes to apartments | Yes=25% | No=65% |
| • Addition of guest house on an existing lot | Yes=48% | No=40% |
| • Allowing "mother-in-law apartments" | Yes=70% | No=21% |
| • Multi-unit structures | Yes=19% | No=69% |

• Cluster residential	Yes=35%	No=54%
• Condominiums	Yes=13%	No=78%
• Mobile homes on individual lots	Yes=16%	No=74%
• Mobile home parks	Yes=5%	No=88%
• Senior housing	Yes=57%	No=30%
• Workforce housing	Yes=29%	No=49%

The above results highlight the community concern for maintaining the rural character of the town and the preference for smaller buildings and developments. The strong support (70%) for “mother-in-law apartments” and preference for single family homes are indicators. In a similar fashion, the addition of a “guest house” on exiting lots was viewed more favorably than multi-unit structures, cluster residential and condominiums. Senior housing was also looked upon favorably.

Housing Units— *The total number of housing units has increased by 24% since 1990.*

As shown in Figure 1-14, the total supply of housing units in Sandwich has steadily increased over the past twenty years to a 2007 estimated 1,070 units. Single family homes dominate housing in Sandwich. The number of multi-family housing units has declined by 5% in the past seventeen years while manufactured homes have declined by 64% during that same time period.

Figure 1-14: Housing Units Per Structure in Sandwich and Total Increase by Decade

	Single Family	MultiFamily	Manuf.Home	Total	% Increase for prior decade
1990	765	54	45	864	19.67%
2000	886	51	28	965	11.69%
2007	990	51	29	1,070	10.88%

Source: US Census & NHOEP

The type of housing units in Sandwich is similar to a number of other communities in the lakes region, but is significantly different from that of the county and state. As Figure 1-15 displays, 93% of the units in Sandwich are single family homes, compared to 77% for the county at and 63% for the state. The supply of multi-family dwelling units is one-third of the county percentage and one-sixth of the state’s 30%. Likewise, manufactured homes¹ in Sandwich account for half the percentages that are found at both the state and county level.

¹ Manufactured homes are defined as homes that are delivered to a site with a structural chassis and wheels. They are typically not installed on a permanent foundation. Modular homes are more traditional wood or steel framed structures that are manufactured in one location and moved, in one or more sections, to a site and installed on permanent foundation.

Figure 1-15: 2007 Regional Comparison of Housing Units

	Single Family	MultiFamily	Manuf.Home	Total
Sandwich	93%	5%	3%	1070
Center Harbor	92%	2%	6%	736
Holderness	84%	8%	8%	1310
Meredith	80%	13%	6%	4727
Moultonborough	93%	5%	3%	5189
Tamworth	79%	11%	10%	1800
Tuftsboro	87%	6%	7%	2288
Wolfeboro	81%	17%	3%	4256
Carroll County	77%	16%	7%	39208
State of NH	63%	30%	6%	606292

Source: NHOEP

Because Sandwich is a strong visitor destination, it has a significantly higher percentage of seasonal housing units (37%) as compared to the state (10%). As Figure 1-16 shows, other communities in the lakes region have similar seasonal housing supply percentages, and Carroll County is even higher with 43%. Comparing 1990 and 2000 figures, there is a growing number of year-round housing units, as compared to seasonal, throughout the region and state. For Sandwich, 41% of the housing units were seasonal in 1990 and in 2000 that figure dropped to 37% possibly reflecting the attraction of Sandwich as a retirement destination.

Figure 1-16: Total & Seasonal Housing in Sandwich and the Region

	1990			2000		
	Total	Seasonal	% of Total	Total	Seasonal	% of Total
Sandwich	864	352	41%	965	360	37%
Center Harbor	649	239	37%	653	208	32%
Holderness	1136	417	37%	1208	404	33%
Meredith	3720	1,603	43%	4191	1,611	38%
Moltonborough	3824	2,526	66%	4523	2,519	56%
Tamworth	1508	524	35%	1662	526	32%
Tuftsboro	2027	1,236	61%	2019	1,043	52%
Wolfeboro	3653	1,345	37%	3903	1,194	31%
Carroll County	32146	15,310	48%	34686	14,887	43%
State of NH	503904	57,135	11%	546524	56,413	10%

Source: US Census

Owner vs. Renter Occupancy - 80% of the homes in town are owner occupied, which is typical for area communities

Eighty percent of Sandwich's occupied housing is owner-occupied, which is average for other towns in the lakes region and for Carroll County. As can be seen from Figure 1-17, 70% of the occupied units are owner-occupied statewide.

Figure 1-17 also shows the average household size for Sandwich, the region, county and state. As of the 2000 census, Sandwich had the lowest number of persons per owner-occupied housing unit of the jurisdictions reviewed, at 2.31 persons per household possibly reflecting the large retirement population. Statewide, there are 2.70 persons per owner-occupied housing unit. By comparison, rental housing units have fewer persons per household, averaging 2.19 persons for the jurisdictions surveyed. Sandwich's rental household size is slightly less than the average at 2.18.

Figure 1-17: Tenancy of Occupied Housing and Household Size

	% Owner	% Renter	Average HH Size	
			owner	renter
Sandwich	80%	20%	2.31	2.18
Center Harbor	85%	9%	2.40	2.28
Holderness	78%	14%	2.50	2.43
Meredith	77%	13%	2.46	2.10
Moultonborough	87%	5%	2.35	2.43
Tamworth	74%	17%	2.45	1.99
Tuftonboro	87%	6%	2.34	2.16
Wolfeboro	77%	15%	2.41	2.03
Carroll County	78%	22%	2.41	2.15
State of NH	70%	30%	2.70	2.14

Source: 2000 US Census

Age of Housing - *There is a higher percentage of homes in Sandwich that were built before 1940 than in other towns in the region or the state*

Reviewing the age of housing provides a view of how much building occurred in a given decade in comparison to other communities in the region. Figure 1-18 shows the age distribution of housing units for Sandwich, the lakes region, county and the state. Sandwich has the highest percentage of units built before 1940 at 38%, indicating that fewer newer units have been built in town relative to other communities being evaluated. The percentage of housing units built in Sandwich between 1940 and 1990 is also below the regional average suggesting that more residential development occurred in other communities during this time period. This may also reflect a trend towards preservation and renovation of older houses as opposed to new builds. Between 1990 and 2007, Sandwich saw residential growth that was more consistent with the region and state.

Figure 1-18: Age of Housing as a Percent of Total Units

	1939 &older	1940-59	1960-69	1970-79	1980-89	1990-2000	2001-07	total units
Sandwich	38%	8%	7%	11%	13%	14%	10%	1,070
Center Harbor	20%	18%	9%	15%	18%	10%	11%	736
Holderness	30%	13%	11%	12%	17%	10%	8%	1,310
Meredith	15%	15%	14%	15%	17%	13%	11%	4,727
Moltonborough	10%	9%	12%	18%	19%	20%	13%	5,189
Tamworth	28%	6%	9%	16%	21%	12%	8%	1,800
Tuftonboro	21%	16%	9%	14%	16%	12%	12%	2,288
Wolfeboro	22%	12%	10%	11%	19%	17%	8%	4,256
Carroll County	17%	10%	9%	16%	23%	14%	12%	39,208
State of NH	21%	12%	9%	16%	19%	12%	10%	606292

Source: US Census and NHOEP

Housing Affordability - *Based on the new state law definition, an "affordable" home in Carroll County needs to sell for \$211,000 or less.*

In 2008 the New Hampshire Legislature adopted a new workforce housing statute (RSA 674: 58-61) that requires municipalities to provide reasonable opportunities for the development of both ownership and rental housing that is affordable for households of specified income ranges. Affordable ownership housing needs to be priced so that it is affordable to a family of four whose income is at 100% of the median income for the area (as published annually by the U.S. Department of Housing and Urban Development). For Sandwich, the 2009 target income is \$63,400. This figure allows for 30% of the income to be attributed to housing costs, including principal, interest and taxes. At that income an affordable home should cost no more than \$211,000². Affordable rental housing is defined in the statute as housing that can be rented for no more than \$860 per month, based on a family of three persons that earns no more than 60% of the median income for the area³.

On an annual basis, the New Hampshire Housing Finance Agency undertakes surveys of actual home sales and rental prices around the state. The results of that survey found that, of the 267 housing units sold in Carroll County, 53% were at or below the \$211,000 affordable price. The corresponding results for the 306 rental units included in the survey, found that 49% of those units were affordable based on the state statute definition.

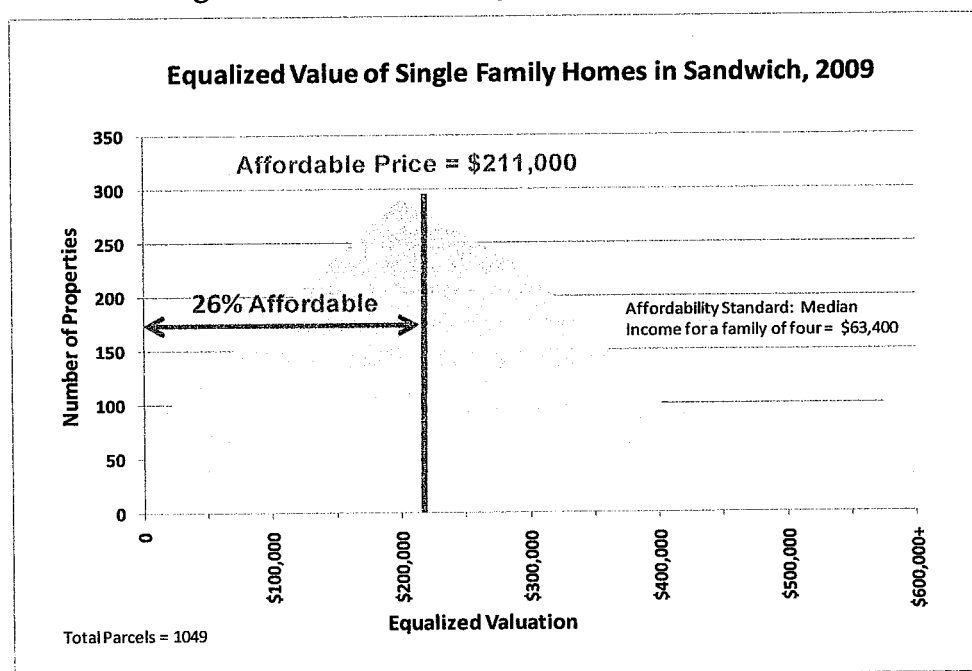
² Purchase price was determined using NHHFA criteria of 30% of income for a 4 person median income family making a 5% down payment, 30 year mortgage at 5.74% interest with 0.7 points.

³ Maximum monthly rent is calculated based on 30% of a three person family making 60% of the median income for the county (\$34,240).

Sandwich Affordability Indicators - 26% of the homes in Sandwich meet the state law affordability standard

The above survey information provides an indication of affordability of housing for Carroll County, but is not detailed enough for Sandwich. To get a better understanding of Sandwich's housing prices, the town assessment records were examined. Those records show that there is a total of 1,052 residential properties in town. Two of those are listed as 2-family structures and one is listed as a 3-family building, leaving a total of 1,049 properties that have single family homes. Adjusting the assessed value by the state's current valuation factor to approximate current market values, there are 277 (or 26%) ownership properties in Sandwich that are affordable at \$211,000 or less. See Figure 1-19.

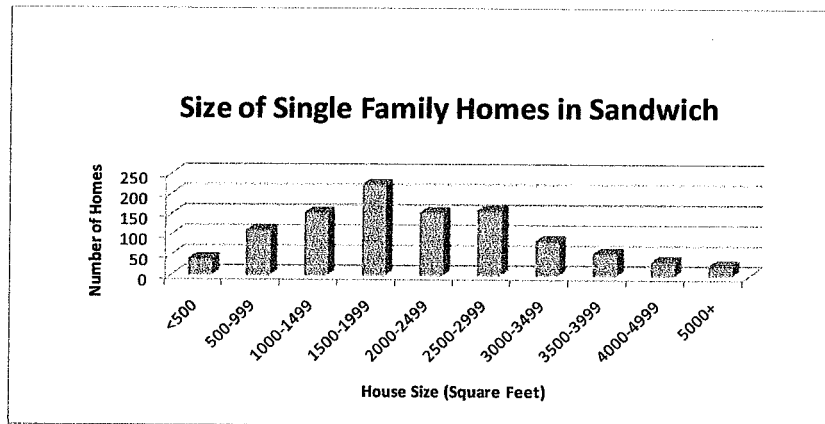
Figure 1-19: Affordability of Homes in Sandwich



Data Source: 2009 Sandwich Assessing Records

An important factor that heavily influences housing price is the size of the housing unit. Homes that have a smaller square footage of living space are usually more modestly priced. Figure 1-20 displays the distribution of the size of the homes in Sandwich based on the town assessing records. A total of 532 homes have a building area of 2,000 square feet or less, which represents half of all the homes in town.

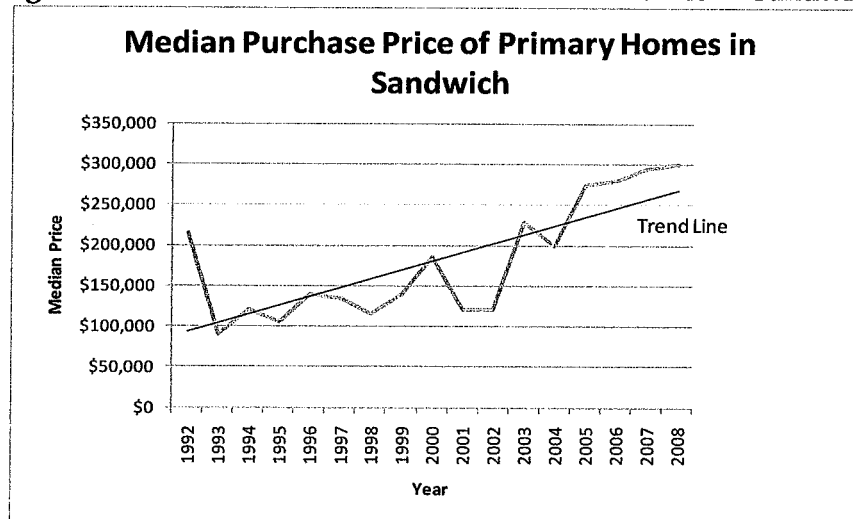
Figure 1-20: Size of Single Family Homes in Sandwich



Data Source: 2009 Sandwich Assessing Records

Figure 1-21 displays the median purchase price trends for primary homes in Sandwich from 1992 to 2008. This data has been collected annually by the NH Housing Finance Agency. Because the number of annual sales in Sandwich is small (ranging from 1 to 16 sales per year) there is considerable variation in prices from one year to the next. To moderate this data deficiency, we have included a trend line in Figure 1-22 to show how the average prices have risen between 1992 and 2008. The trend analysis shows that home prices in Sandwich have risen from \$95,000 in 1992 to \$260,000 in 2008 – a change of 274%. During this same sixteen year period the median family income for Carroll County has grown from \$33,500 in 1992 to \$61,300 in 2008, which is a 183% change. Comparing these two sets of data, it is clear that housing prices have risen considerably faster than median incomes and that housing is becoming increasingly less affordable.

Figure 1-21: Median Purchase Price Trends of Homes in Sandwich



Source: NH Housing Finance Agency

Issues & Challenges

Sandwich has continued to see new housing construction activity that is consistent with the surrounding region. However, the supply of multi-family and rental housing in town is significantly below the county and state averages. Not surprisingly, the amount of seasonal housing remains high when compared to the state, but is consistent with that of the lakes region due to the town's location on Squam Lake.

With the high cost of housing and aging population in Sandwich, consideration should be given to providing more flexible housing options including accessory dwelling units.

In addition, because of standards included in the recently enacted workforce housing statute (RSA 674-58-61), Sandwich needs to be pro-active in ensuring that its zoning and development regulations continue to "provide reasonable and realistic opportunities for the development of workforce housing".

Action Plan

Vision Goals for Population & Housing

Allow for modest growth of residential development that is of a size, design and quality that is compatible with Sandwich's small town, rural character and recognizes Sandwich's evolving demographics.

Provide reasonable opportunity for housing choice so that greater age and income diversity can be achieved.

Objective PH-1: Provide opportunities for a variety of home ownership and rental housing that will be affordable to a broad range of age and income groups.

Action

Action PH 1.1: Consider amending the zoning ordinance to permit fully independent accessory dwelling units (that include separate kitchen and sanitary facilities) in residential zoning districts.

For more specific regulatory strategies relating to cluster residential and other regulatory actions see the Land Use Chapter Action Plan, LU 2.1 through LU 2.5.

2. Natural Resources

Overview—*Sandwich is blessed with an Abundance of Natural Resources*

Sandwich's natural resources are a critical consideration in establishing a proper approach for land-use planning and management. Understanding natural resource values provides a rational basis for determining which areas of the town are more appropriate for protection of open space and which areas are more suitable for development. Natural resources such as slope, forest resources, wildlife and water resources add to Sandwich's character, provide recreational and economic opportunities and contribute to the quality of life for Sandwich residents. These natural resources also provide both opportunities and limitations for growth. Steep slopes and wetlands, for example, are less suitable for development, while flatter, better drained areas are more suitable.

A Few Facts about our Resources

Sandwich contains:

- 52,130 acres of forest and brush land ,approximately 86% of the total land area
- 438 acres of Prime Farmland Soils and another 511 acres of Farmland Soils of Statewide Importance
- Over 96 miles of rivers and streams
- Part of three major watersheds—the Ossipee (Saco) River, Pemigawasset River, Winnepesaukee River
- One major surface water body—Squam Lake—with an area of 1,305 acres and a shoreline of over 87,000 feet within Sandwich
- 4,749 acres of hydric soils and 840 acres of Prime Wetlands
- Over 4,300 acres of sand and gravel deposits and 1000 acres of these have good water yielding capacity
- 36,322 or 60.8% of the town in Tier 1 high quality wildlife habitat (Highest Relative Rank by Ecological Condition in NH)
- 17,243 acres of protected lands in the White Mountain National Forest (WMNF), 2,430 acres of protected lands in community ownership and another 3,240 in private ownership

Topography and Elevation—*Elevation Ranges from 537 to 3,933 Feet*

Sandwich lies at the nexus of three distinct eco-regions in New England: the Vermont-New Hampshire Upland Section to the west, the White Mountain Section to the north, and the Southern New England Coastal Hills & Plains Section to the south and east¹. The hilly terrain ranges in elevation from about 537 feet near the Red Hill River in the southern section of town to approximately 3,993 feet at the top of Sandwich Dome in the White Mountain National Forest

¹ From: *New Hampshire's Living Legacy, The Biodiversity of the Granite State*, N.H Fish & Game Department (1996).

along the town's northern border—an approximately 3,456 foot change. **See Map 2, Topography and Groundwater Resources.**

There are numerous significant peaks within Sandwich, including: Sandwich Dome, Black Mountain, Flat Mountain, Young Mountain, Mount Israel, Dinsmore Mountain, Mount Squam and Doublehead Mountain. These peaks provide much of Sandwich's scenic quality.

Sandwich's terrain ranges from lowlands to mountainous terrain, from almost flat marshland in the eastern portions of North Sandwich, to gently sloping areas near the center of town, to the mountainous areas of the White Mountain National Forest. Much of the land in Sandwich, particularly those areas within the WMNF, is comprised of steep slopes above 900 feet. Once slopes exceed 15%, activities such as forestry and development become more difficult and costly and may require appropriate land management practices to minimize environmental impacts. The **Slope Map, Map 3** shows the extent of slopes between 15 and 25% and greater than 25%.

Surface Geology—*Most of Sandwich is covered in Glacial Till with Sand & Gravel in Lowland Areas*

The majority of Sandwich is overlain with glacial till, a relatively thin mantle of soil over the bedrock, and is made up of a mixture of boulders, stones, cobbles, sand, silt and clay. Some of the lower lying areas are made up of stratified drift materials that were deposited by the melt waters of the last period of glaciations. These deposits provide a good source of sand and gravel and in some cases potential groundwater supplies. These stratified drift features are shown on the **Topography and Groundwater Resources Map**, indicated by the aquifer areas. The largest concentration of these deposits is along the Cold and Bearcamp Rivers, straddling NH Route 113 in eastern Sandwich.

Sand and Gravel Resources

Sand and gravel are valued resources for general construction, as well as road construction and maintenance. The Natural Resources Conservation Service (NRCS) has interpreted the Carroll County Soil Survey for the potential use of sand and gravel soils as construction materials. **See Map 4, Sand and Gravel Resources.** In Sandwich there are 3,186 acres of sand and gravel soils. There are several active or recently abandoned pits that have taken advantage of these resources for construction materials.

Areas containing sand and gravel are important groundwater recharge areas for stratified drift aquifers. There are over 2,000 acres where both stratified drift aquifer and sand/gravel resources exist together. Proper management of sand and gravel operations is critical for protection of the water quality in the aquifers and associated streams and rivers. At present, Sandwich has an Excavation Ordinance dated November 1, 1989 that regulates sand and gravel extraction.

Forest Resources and Unfragmented Lands— *Sandwich has Large Tracts of Unfragmented Forest and Open Lands*

One of Sandwich's most significant natural resources is its forests. Sandwich has over 52,000 acres of forest and brush land, or approximately 86% of Sandwich's total land area as shown on **Map 5, Land Cover**. Aside from the White Mountain National Forest, there are still approximately 35,000 acres or about 58% within municipal jurisdiction.

Sandwich's forests provide multiple benefits to the community and region including:

- Source of economic opportunity for lumber and wood products
- Source of fuel wood for private owners and for commercial sale
- Value for holding soil in place to minimize erosion and sedimentation into adjacent streams
- Valuable wildlife habitat
- Opportunity for outdoor recreation
- Natural beauty and scenic views for residents and visitors.

Almost all of Sandwich's forests are second growth coniferous and deciduous woodlands. These forest resources represent a response to a relatively wet climate that produces about 48 inches of rainfall annually with warm summers and cold winters. Variation in soil and slope also results in a variation in forest cover. Where soils are somewhat wet there may be a preponderance of hardwoods such as red maple and yellow birch. A mixed forest, including white pine and red oak, will more likely occur in drier/gravelly soils, whereas spruce/fir forests are often at higher elevations in thinner soils. Given the town's variation in soils types and elevation, there is a wide variety of forest types and tree species, from white pine-red pine shorelines, to oak-pine dry woods to hemlock-beech-oak-pine mixed woods to spruce-fir montane forests.

Forest Types

The **Land Cover Map** indicates the distribution of forest types, as well as the number of acres for each tree species. The largest forest block is Mixed Forest, which includes both hardwoods and softwoods and comprises approximately 14,500 acres. Mixed forest is primarily at elevations between 600 and 1200 feet in the east and southeastern portions of the town. Other large blocks by species group include:

- Beech/Oak 10, 480 acres; at lower elevations—600-900 feet near Squam Lake
- Northern hardwoods 10, 235 acres at higher elevations—900-1800 feet
- Paper Birch/Aspen 5,565 acres at higher elevations—900-1800 feet

Important Forest Soil Groups

In recent years the Natural Resource Conservation Service (NRCS) in New Hampshire has been developing the concept of forest soil productivity and management limitations. Soils mapped by the NRCS for each county soil survey have been grouped into six forest-related categories, termed "Important Forest Soils Groups," based on the inter-relationship of soil characteristics including texture and moisture or wetness; inherent limitations of the soil for forest management e.g. steep slopes, shallowness, boulders, rock outcrops; and typical forest successional trends on certain soil types. Higher quality forest soil groups include Group 1A (11,478 acres), Group 1B (16,651 acres), and Group 1C (2,118 acres). Lower quality forest soils that are steep, shallow, or wet include Group 2A soils (6,023 acres) and Group 2B soils (3,346 acres). Non-productive forest soils (Group NC or "not classified") include 8,443 acres of muck and peat, gravel pits, open water, or other areas that do not support forests. Specific data on important forest soils are included on **Map 6, Forest Soils**.

Unfragmented Lands

Another indicator of the significance of Sandwich's forest resources is the amount of unfragmented land. Unfragmented lands are land blocks—usually forest lands—that are not interrupted or fragmented by road or railroad corridors. Using a variable width buffer from known public roadways, Sandwich has approximately 57,889 acres of unfragmented lands. The use of the variable width is based on the rationale that a less travelled or narrower roadway presents less of a barrier to wildlife and has less impact on forest resources. The following buffer widths were used for this analysis:

- State roads 150 feet
- Class V, paved 75 feet
- Class V, gravel 50 feet
- Class VI 0 feet

Forest blocks of 500 or more acres tend to have high value for ensuring healthy wildlife habitat, as well as providing a significant opportunity for sustained forest management. **See Map 7, Unfragmented Lands.** Sandwich is fortunate to have significant blocks that exceed 5000 or more acres. Specifically, Sandwich has 7,006 acres of unfragmented lands in 500 to 1,000 acre blocks; 11,293 acres in 1,000 to 5,000 acre blocks, and 37,360 acres that occur in blocks greater than 5,000 acre blocks (representing much of the White Mountain National Forest).

Agricultural Lands and Farmland Soils — *Sandwich primarily has Farmland Soils of Local Interest*

The **Agricultural Soils Map (Map 9)** for Sandwich indicates a total of 24,623 acres of soils that are classified as good to excellent agricultural soils. (The WMNF has not yet been mapped for soil types, although this process has begun and is scheduled for completion in 2013. Consequently, this total only includes areas within the town and outside the WMNF.) As shown

on the map, a majority - 96% or 23,674 acres – is classified as farmland soil of local importance, with smaller, scattered pockets of soils identified as being of statewide importance (511 acres) and prime agricultural soils (438 acres). The total acreage of good to excellent agricultural soils comprises 57% of the town or 40% of the total including White Mountain National Forest. Given the steep and rocky nature of most of the White Mountain National Forest, it is likely only a small amount of good agricultural soil land will be added to the total once it is mapped.

Water Resources — *Abundance of Surface and Groundwater Resources*

Surface Waters

Major river and stream systems divide Sandwich into three major watersheds. The Ossipee (also referred to as the Saco) River Watershed is the predominate watershed covering the central and eastern portion of the town, with the Pemigewasset River Watershed encompassing the western portion, and the Winnepesaukee River Watershed the south-central areas. Within these three larger watersheds there are eight (8) subwatersheds, as shown on **Map 10, Surface Water Resources**. The Upper Bearcamp River and Cold River watersheds are contained almost entirely within the town of Sandwich, and portions of the Mad River, Beebe River, Squam Lake Drainage, Red Hill River (Moultonborough Inlet), Lower Bearcamp River, and Swift River watersheds are contained within Sandwich.

Large Water Bodies

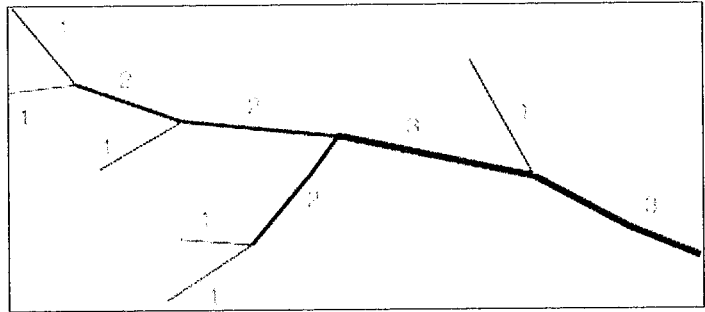
Open surface water provides important habitat for a variety of wildlife species, as well as recreational opportunities for residents. The town has a total of 2,366 acres of open surface water. The largest body of water is Squam Lake. The lake's northeastern portion lies within the town's borders. The 6,791- acre natural lake has over 60 miles of shore frontage; of this Sandwich has 1,305 acres or almost 20% of the lake and almost 17 miles (87,970 feet) of shoreline. The town also contains at least 17 ponds, the largest being Bearcamp Pond. Others include Red Hill, Kusumpe, Intervale, Dinsmore, Barville, Guinea, Little Pond, and Upper, Middle and Lower Hall Ponds.

Many of the shorelands of these large bodies of water are within the Shoreland District of the Zoning Ordinance. This zoning district extends 600 feet from these waterbodies and regulates the use and activities within this area. For example, prohibited uses include automobile junkyards and solid waste facilities.

Streams and Rivers

Streams and rivers are often categorized in hierarchical fashion with first order streams serving as the headwater streams in a watershed. When two first order streams join the stream becomes a second order stream and so on. See the figure below. The **Surface Water Resources Map** indicates that of the 96.3 miles of streams and rivers in Sandwich--32.1 miles are first order, 32.0

miles are second order, 24.3 miles are third order and 7.9 miles are fourth order streams. The first order streams include Atwood Brook, portions of the Bearcamp River, portions of the Beebe River, Burrows Brook, Captain Neal Brook, Cook Brook, East Branch of the Whiteface River, Eastman Brook, Ford Brook, Heath Brook, Mill Brook, Meadow Brook, Montgomery Brook, Pond Brook, Skinner Brook, Smith Brook Stanton Brook, Tilton Brook, Thompson Brook, Weed Brook and White Brook. These headwater streams are particularly sensitive to development impacts since the low flows in these streams cannot assimilate pollutant impacts.



US Army Corps of Engineers, after Strahler Stream Order

Although the Shoreland District regulates activity around large waterbodies, it does not regulate activities along streams and rivers. The Wetland Protection Ordinance provides some regulatory standards for septic systems and dwellings near streams ("water bodies"), but does not address other land use activities. The state Comprehensive Shoreland Protection Act does regulate 4th and some 3rd order streams, but not lower order streams, such as White Brook in the Cold River subwatershed or Stanton Brook in the Red Hill subwatershed.

Floodplains

Sandwich has approximately 5,767 acres of floodplains that have flooded once every 100 years. These areas provide valuable flood storage during significant rainstorm events. Development in or adjacent to these areas must be minimized in order to preserve this flood storage value. Such development simply forces flood waters to other low lying areas that may not have been subject to such flooding in the past.

The Town of Sandwich regulates activity in floodplains through the Floodplain Management Provisions of the Zoning Ordinance. These provisions require new construction or substantial improvement to be at or above the 100-year flood level. It does not regulate the type of use which would be determined only by the underlying zone, such as Rural Residential.

Groundwater

The Topography and Groundwater Resources Map indicates several areas of potential groundwater extraction within stratified drift aquifers. These areas are located along the eastern boundary of Sandwich and are associated with segments of the Whiteface, Cold, Red Hill and Bearcamp Rivers. The deposits are rated by their transmissivity or ability to yield groundwater. Sandwich's deposits are rated primarily over 1,000 square feet per day, with one area associated with Cold River along Route 113 up to 8,000 square feet per day. In total, there are over 4,000 acres of this resource, with over 800 acres potentially yielding more than 2000

square feet per day. These areas may need additional protection to maintain water quality and potential for future municipal water source consideration. Much of the area east of the Cold River to the Tamworth border has been developed for sand and gravel extraction as shown on **Map 1**.

While the town's Excavation Regulations control excavation into groundwater for extraction activities in sand and gravel areas, there is currently no Aquifer Protection Ordinance with specific standards for groundwater protection.

Water Quality

Squam Lake Watershed

The health of surface waters may be determined through a consistently applied monitoring program. Squam Lake has been regularly monitored by the Lay Lakes Monitoring Program at UNH for the past 31 years.² This program has over 20 monitoring locations, seven (7) of which are wholly or partially within the Sandwich municipal boundary on the lake. These include:

- Rattlesnake Cove,
- Inner Squaw Cove,
- Sandwich Bay
- Kent Island
- Loon Reef, and
- Deephaven Reef.

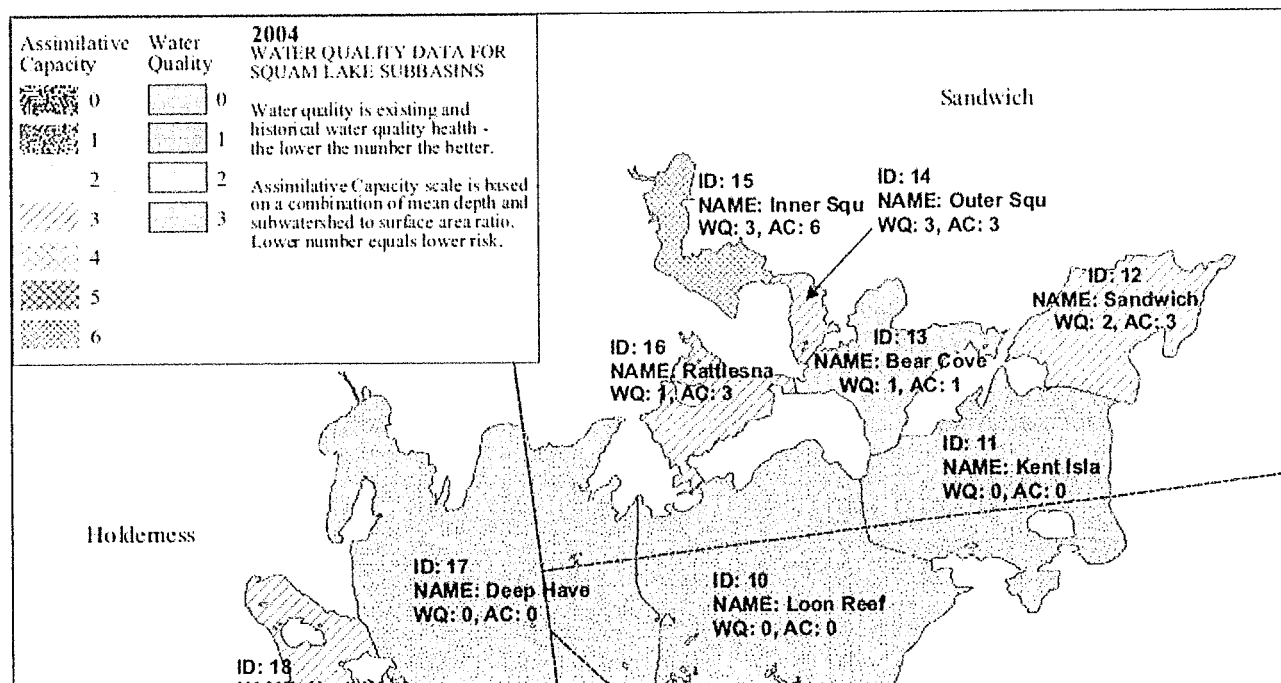
Both open water and tributary data has been tested for transparency, chlorophyll α , total nitrogen, total phosphorus, dissolved oxygen, biologic oxygen demand (BOD), and conductivity (specific conductance). In general, the overall water quality of the lake is good to excellent, although there are seasonal variations that may affect this condition, especially during periods of high precipitation, leading to sediment and nutrient runoff and a greater loss of transparency. In addition, restricted areas have been more vulnerable to pollutants from stormwater runoff, including sediment, phosphorous and nitrogen.

Figure 2-1 shows the location of these areas. The figure also includes summarized water quality and assimilative capacity data for each site. Overall, the Water Quality ranges from 0 to 3, where the lower the number the better the water quality—that is low levels of nitrogen, phosphorous and sediment in the water. Similarly, assimilative capacity (or the ability to dilute the impact of pollutants) ranges from 0 to 6, where the lower the number the more assimilative capacity and, therefore, the lower the risk of pollution.

² *Squam Lake, Water Quality Data Summary, 2000-2007; Schloss, Jeffrey; NH Water Resources Center in association with the Squam Lake Association, 2009*

As can be observed, the sites located in coves tend to have lower water quality and have less capacity to assimilate pollutants. Conversely, the open water sites have better water quality and more ability to assimilate pollutants.

Figure 2-1. Water Quality Data, Squam Lake Sub-Basins



Source: *Squam Lake, Water Quality Data Summary, 2000-2007*; Schloss, Jeffrey; NH Water Resources Center in association with the Squam Lake Association, 2009

Ossipee Watershed

One of Sandwich's largest ponds, the 167 acre Bearcamp Pond, has been monitored for many years through the Volunteer Lake Assessment Program (VLAP), using standard measures of water quality health such as chlorophyll-a, transparency and phosphorus. Bearcamp Pond has historically had relatively stable, good water quality health.

In addition, for the past seven (7) years the Green Mountain Conservation Group and the NH Department of Environmental Services (NH DES) have been conducting water quality sampling in various rivers and brooks of the Ossipee Watershed. Volunteers have conducted sampling at 35 sites, 2 of which are in Sandwich—on the Cold River and on Pond Brook. . Results from the past seven (7) years indicate that the watershed's surface water quality is high. In 2005-2006, a survey for variable milfoil was conducted in all open water bodies in Sandwich. The negative result also testified to the positive water quality of the ponds and lakes that can be found in Sandwich.

Pemigewasset Watershed

The Lakes Region Planning Commission conducted a study in 2008 of the Pemigewasset River Watershed, which included the Beebe River sub-watershed, part of which is located in the western portion of the town.³ The study included a co-occurrence analysis that interpreted “significant resource features”, including lands and waters that were most important for identifying living resources (flora and fauna). Five key features were evaluated through the co-occurrence analysis: (1) high quality stream watersheds; (2) large and high quality wetland systems; (3) riparian zones on freshwater rivers, streams, lakes and ponds; (4) unfragmented forest ecosystems; and (5) exemplary natural communities and significant wildlife habitat. The Beebe subwatershed was identified as having the greatest amount of significant habitat in the Pemigewasset River Watershed. The majority of the Beebe River subwatershed contained moderate or high quality waters, with the Beebe River corridor having the highest quality waters.

.....this (study) illustrates that not all areas in conservation are necessarily of high water quality, and highlights the need for continued diligence when planning for conservation purposes.
Pemigewasset Watershed: Resource Co-Occurrence Mapping and Analysis. Final Report, June 2008. Lakes Region Planning Commission.

The Squam Lake drainage area, located to the south of the Beebe River subwatershed and including the southwestern portion of the town, was identified as an important source for water supply, and providing flood storage capacity.

The NH Forest Society is conducting a regional natural resource co-occurrence study for the communities bordering on Squam Lake. Originally scheduled to be completed by the end of 2009, it will be published later in 2010. This study is intended to identify those areas with the highest value for long-term protection. Preliminary results indicate that the most highly valued areas in Sandwich will be associated with its streams, brooks, and wetland resource areas, as well as the Squam Range.

Wetland Resources — *Over 6,500 acres of Hydric Soils*

Sandwich is estimated to have over 6,500 acres of hydric soils of which 4700 acres lie outside the WMNF (see Surface Waters Resources Map). These soils have poor drainage characteristics, yet often lie in areas where floodwaters are retained, valuable wildlife habitat can be found, and where surface waters percolate into the substratum and feed underground aquifers.

In terms of jurisdictional wetlands, the exact number of acres in Sandwich has yet to be determined. Wetlands exist where surface and/or groundwater can be found at the soil surface for a long enough period of time for both hydric soil conditions to develop and wetland plants

³ *Pemigewasset Watershed: Resource Co-Occurrence Mapping and Analysis. Final Report, June 2008. Lakes Region Planning Commission* http://www.lakesrpc.org/pemi_water.asp

(hydrophytes) to grow. Although streams and rivers are “surface waters” in the eyes of the state, they often develop wetland conditions by having bordering vegetated areas with hydric soils and a prevalence of hydrophytes. Intermittent streams are also considered part of the wetland system by the state of New Hampshire, as well as all lands below the high tide line, although it’s been a little while since Sandwich has experienced any tides.

Wetlands provide valuable functions to society. The ability to store floodwaters has been mentioned above, as has the ability to store flood waters and the recharge groundwater into the underlying aquifer. Thus, they improve water quality by filtering out unwanted chemicals and suspended solids in our flowing streams and ponds. Most importantly, they serve as a refuge for wildlife, and offer habitats, and food sources for mammals, birds, fish, amphibians, and reptiles. In terms of social value, wetlands often add a scenic backdrop to forest land or open waterways

In Sandwich, eight wetlands were designated by town vote in 1984 as “prime.” According to RSA 482: A-15, prime wetlands are those that by virtue of their “unspoiled and fragile nature” can be voted on by the town to be specially registered with the state, and thereby receive extra protection under state law. The eight prime wetlands are as follows:

- 1) Bearcamp Pond and the marshes upstream of the pond
- 2) Bearcamp River below the pond
- 3) Red Hill Pond and bogs
- 4) Red Hill River south of Route 109
- 5) Atwood Brook
- 6) Meadow Brook
- 7) Squam Lake marshes on Squaw Cove near Metcalf Road
- 8) Miles, Bragg, and Taylor Ponds

These wetlands were initially identified by a wetland research project in 1983 and are identified by number on the **Surface Water Resources Map**. A revised map of their location has yet to be created. In the interim, the Conservation Commission has reviewed and commented on timber harvesting and other development activities requiring permits in and near prime wetlands to the Planning Board and Board of Selectmen in order to maintain the high degree of protection the town sought in 1984. The town regulates use of wetlands through the Wetland Protection overlay district of the Zoning Ordinance.

Wildlife—A Rich Biodiversity

One of the most widely recognized features of Sandwich’s natural resources is wildlife. Like forest, soil and water resources, the wildlife of the area add to the quality of life that residents value so highly. Wildlife add to the scenic and aesthetic enjoyment of the town, they provide opportunities for hunting and fishing as well as excellent subjects for study, and add to the general economic health by attracting visitors who come here to see and enjoy wildlife.

Figure 2-2. Approximate Number of Vertebrate and Invertebrate Wildlife in Sandwich

Vertebrates	
Amphibians	14
Birds	189
Fish	24
Reptiles	13
Mammals	52
Aquatic Macro-invertebrates	238
Lepidoptera	665
Odonata	74
Other Invertebrates	725

Source: Squam Lakes Science Center, Rick Van de Poll, 2008

As the above figure indicates, there are over 250 vertebrate species in the Squam Region. Although specific counts have not been undertaken except for the occasional natural resource inventory or “bioblitz,”⁴ there is an estimated 1600 – 1800 species of invertebrate wildlife that adds richness to the biodiversity of the area. As indicated below, there is a wide variety of wildlife habitats in Sandwich, ranging from the plankton-rich deep water areas of Squam Lake to the hardest of alpine lichens on the uppermost ledges of Sandwich Dome.

The diversity of habitats within the unfragmented forests of Sandwich means that deer, moose, bear, fisher, bobcat, coyote, fox, mink, otter, and ermine are frequently observed. Owing to the proximity of the White Mountains, the state-threatened pine marten is also a part of the fauna. Federally listed lynx and mountain lion have only been rumored for the area, although ample habitat exists. Lowland forests included the southern hooded warbler during a bioblitz in 2008, yet the summit of Sandwich Dome regularly supports Canada jays and boreal chickadees. Atlantic salmon and rainbow trout make for good angling in Squam Lake, and native brook trout runs occur in many of the coldwater streams.

Areas of Ecological Interest — *Special Areas of Conservation Focus*

Endangered Flora and Fauna

The New Hampshire Natural Heritage Bureau, a bureau in the Division of Forest and Lands, finds, tracks, and facilitates the protection of the state’s rare plants and exemplary natural communities. The Bureau also tracks rare animal species in cooperation with the Nongame and Endangered Wildlife Program of the NH Fish and Game Department.

⁴ A bioblitz is a fun and educational endeavor that seeks to count every single organism in a defined area during a certain period of time (usually 24 hours). The Squam Lakes Science Center has conducted two bioblitzes in an area that includes part of Sandwich in 2008 and 2010.

In Sandwich, four extant state endangered plant species and four extant threatened plant species have been identified. Another 10 rare and endangered plant species are considered “historic” since they have not been observed for the past 20 years. In addition, there are current records of three state-threatened animals (pine marten, common loon, and grasshopper sparrow) and at least six “Special Concern” animals in Sandwich. **See Appendix C** for the full list. Among plants, the bulk of the rare species occur in or along large water bodies such as Squam Lake and Red Hill Pond, and in association with calcium-rich bedrock such as syenite and basalt. Rare animals often involve those that have disappeared since the re-growth of forest after the demise of agriculture in the 1800’s (e.g. grasshopper sparrow), or since the termination of broad scale DDT and other pesticide use (e.g. bald eagle).

Some of the most visible and easy-to-find areas of ecological interest include exemplary natural communities as defined above. Red Hill Bog is a prime example of this in Sandwich. The late successional hemlock forest near Beede Falls is another. In spite of the widespread timbering and land clearing activities of the colonial era, there are still a few pockets of old growth forest left. The south side of the Squam Range contains red spruce-red oak forests in old growth condition with trees that exceed 300 years in age. Lakeshore black gum swamps at Five Finger Point contain black gum trees over 400 years old. Other pockets of large old trees can be found in the White Mountain National Forest, many of which have not been formally identified or described.

Wildlife Action Plan

The New Hampshire Fish and Game Department completed in 2005 a state-wide Wildlife Action Plan (WAP). The intent of the WAP is to provide a tool to identify the most critical wildlife habitat locations in the state. The WAP conveys habitat information through a comprehensive database and series of GIS maps. The WAP information and habitat analysis is a useful tool in determining where to focus future conservation, restoration and management efforts. The information contained in the WAP may also serve as a benchmark for conservation progress in years to come.

Besides noting the location of eco-regions in the state, the WAP also identifies, on a state-wide basis, eight major watershed groups. Watershed groups are based on geology, topographic features (elevation, gradient and landform), connectivity, and local climate patterns that effect watersheds over long time periods. The Town of Sandwich is bisected by two watershed groups, the Mountain Watershed and the Transition Coastal Watershed.

The Plan then identified sixteen (16) habitat types throughout the state. Of these, nine (9) were identified in the Town of Sandwich. These areas are illustrated on **Map 11, Wildlife Habitat**.

- The Hemlock-hardwood-pine habitat is the largest, with 35,940 acres, representing nearly 60% of the Town’s total 60,250 acres. This habitat type is found throughout much of the town except for the higher elevations of the WMNF.

- The second largest habitat type is Northern hardwood-conifer (9,219 acres), which is found primarily in the WMNF, with concentrations in the Squam Range and the area north and west of Route 113A adjacent to the WMNF
- The Lowland spruce-fir forest is approximately 7,003 acres and is generally found between the elevations of 1200 and 2200 feet in the WMNF and associated with the higher elevations of the Squam Range.
- High-elevation spruce-fir forest comprises 1,538 acres and is found at the highest elevations in Sandwich, associated with Flat Mountain and the Sandwich Dome. Almost all (99.7%) is conserved acres—the greatest concentration of conserved land of any habitat type.

Smaller habitat types include Grassland (878 acres), Rocky ridges and talus slopes (1,916 acres), Floodplain forest (587 acres), Wet meadow/shrub wetland (1,940 acres), and Peatland (748 acres).

The WAP information about habitat condition was further analyzed to develop a statewide and regional ranking and identify the highest condition habitat relative to all areas of a given habitat type in the state. The plan established a ranking system in four (4) tiers as follows:

- Tier 1: Habitats of Highest Relative Rank by Ecological Condition in NH
- Tier 2: Habitats of Highest Relative Rank by Ecological Condition in Biological Region
- Tier 3: Supporting Landscapes
- Tier 4: Local Significance

Note: Tier 1 habitats where the biological and landscape ranks are highest and the human impacts lowest. These areas represent the top 10-15% of wildlife habitat in the state and are the ones that are likely to maintain biological integrity over the long term. These areas:

- have fewer risks of degradation or loss than other areas,
- are suitable for maintaining indigenous species and
- minimize the chance of species becoming endangered or extinct.

The Town of Sandwich contains a significant amount of Tier 1 high quality habitat. Of the town's 60,250 total acres, 60.8% or 36,322 acres have been identified as Tier 1 habitat much of which is within the Hemlock-Hardwood-Pine Habitat as shown on **Map 11, Wildlife Habitats Map**. Only 22.6% of the Tier 1 habitat areas in the town have been conserved.

Squam Range-Beebe River

A significant area of ecological value is represented by the Squam Range and Beebe River Corridor within Sandwich. Taken together, there is a high degree of biodiversity including extensive wildlife habitat (191 recorded bird species), well managed forests, blocks of unfragmented land, and a connection between the White Mountain National Forest and Squam

Lakes that makes the conservation of these areas a project of regional, statewide and national significance.

A good example of this biodiversity is the pine marten or American Marten, which inhabits the high elevation Spruce-Fir forest type within the Squam Range and lowlands such as around Kusumpe Pond. It is also a state-listed threatened species. The Squam Range contains a number of late successional to old growth forests that are increasingly rare in New Hampshire. This area also contains the largest streams that flow into Squam Lake. At least two of the brooks contain naturally spawned salmon parr, and all of them contain brook trout for part of the year. A more detailed report on the ecology of this areas is contained in **Appendix A-Squam Range-Beebe River—An Area of High Conservation Value**.

Conservation Lands—25,900 Acres in Conservation

There are approximately 25,900 acres of lands in Sandwich that are in conservation, and most are permanently protected from land development. These lands are divided into four levels of ownership, as shown on the **Conservation Lands Map**— federal, state, municipal/county, or private. Conserved land includes land permanently protected by the fee owner or through a conservation easement.

After the WMNF, the next largest category of conservation land is held by several private nonprofit conservation organizations. According to the latest NH GRANIT System records, which tracks conservation lands statewide, Sandwich has 3,240 acres (14% of conservation land) or thirty-six (36) properties.⁵ These lands have been protected by private non-profit land trust organizations through the donation or acquisition of fee ownership or conservation easement.

Note: There are additional conservation lands that have not yet been incorporated into the GRANIT system. Over the past several years there have been nearly 3,000 acres of conservation lands added to the town's inventory.

There has been a tremendous amount of conservation activity in Sandwich over the past 30 years. In 1980 there were only 730 acres (*Town of Sandwich Master Plan, 1980*) of land conserved by both public and nonprofit entities, as compared to over 8,700 acres today, an increase of almost 8,000 acres or about an 11-fold increase.

The efforts of the community and several land trusts serving the region have made great strides in permanently protecting critical conservation lands in town. At present, there are three land conservation initiatives involving a number of conservation groups, including the Sandwich Conservation Commission. These include:

⁵ Since the NH GRANIT GIS database takes several months to record and post new conservation lands, the above total should be considered approximate to roughly six months prior to May 2010.

- "Squam Wildlife Corridor" that the Squam Lake Conservation Society has been pursuing for the past two years. This effort is to connect the Squam Range with Squam Lake based on research from the *Squam Range Perspective, 2006*. See **Appendix B**.
- "Whites to the Ossipees" initiative by the Squam Lakes Conservation Society, covering the eastern part of Sandwich and including the western part of Tamworth. Supported by the Sandwich Conservation Commission (SCC).
- Protection of unfragmented land near or adjacent to the WMNF, inclusive of the recent conservation action of the Northeast Wilderness Trust, the Lakes Region Conservation Trust, Green Mountain Conservation Group and Society for the Protection of New Hampshire's Forests that have added lands in Whiteface Intervale-Wonalancet Intervale area.

Conservation lands are located throughout the town, with concentrations in several areas (see **Map 12, Conservation Lands Map**). A string of thirteen (13) conservation properties are located along the boundary of the White Mountain National Forest, adding to that significant block of conservation land. Concentrations of conservation lands have also emerged around Squam Lake (south of Route 113), Red Hill Pond and Red Hill River, Bearcamp River/Atwood Brook corridor, and the Mill Brook area adjacent to NH Route 113A in northeastern Sandwich.

There are a number of conservation entities that hold easements and fee interest in conservation lands including the following:

- Lakes Region Conservation Trust (1,269 acres)
- Society for the Protection of New Hampshire Forests (1,026 acres)
- Northeast Wilderness Trust (569 acres)
- Squam Lake Conservation Society (332 acres)
- New Hampshire Audubon Society (239 acres)
- Green Mountain Conservation Group (160 acres)
- L. Boyd Chapman Wildbird Sanctuary (118 acres)
- New England Forestry Foundation (97 acres)

Other publicly owned land includes a 76 acre property held by the University of New Hampshire on Squam Lake and twenty (20) properties held by the town, totaling 2,430 acres (10% of conservation land). Appendix B details conservation land information.

Note: Not all town properties are in permanent protection, i.e., could be sold for profit.

The Town of Sandwich has a dedicated Conservation Fund that is used mostly for land acquisition purposes. Much of the money for this fund comes from the Land Use Change Tax that is imposed on land owners who develop property that is in Current Use. At present, 25 % of the tax goes toward the Conservation Fund, with 75% going to the General Fund. In 2008 the Land Use Change Tax was \$9,285.

Scenic Quality

In the first Master Plan Update public forum in May, 2008 the participants identified several strengths of Sandwich that relate to its scenic quality. These included the natural environment and its beauty as well as the town's cultural identity and historic resources. The 1980 Master Plan included a list of scenic views in Sandwich that contribute to its visual appeal. This 2011 Master Plan Update concludes that, in addition to views, other natural and man-made features contribute to the high scenic value of the Sandwich landscape and should be protected. Examples of such features include:

- Squam Lake viewed from Diamond Ledge Road
- Top of Wentworth Hill on Rte. 109: both the houses and the views looking north, south or west
- Top of the World Road
- Looking west over Squam Lake from Squam Lake Road (See accompanying figure.)
- The blend of architecture, historical buildings and public parks in Center Sandwich
- Sandwich Notch Road
- The Cook Farm and Mead Base from Diamond Ledge Road
- Whiteface Intervale Road
- Durgin Bridge over the Cold River
- Beede Falls (See accompanying figure.)
- The Potholes
- Town beaches: Bearcamp Pond and Squam Lake
- Bearcamp River Trail
- Teacup Lake
- Chapman Bird Sanctuary
- Baptist Church cemetery



Figure 2-3. Squam Lake from Squam Lake Road



Figure 2-4. Beede Falls

The natural and cultural landscape of Sandwich provides many residents with a sense of pride and community, making it distinctive from other communities. Highly valued scenic views and vistas can enhance the quality of the community and the desirability for living there. Given the residents' identity with the town's scenic quality, it is important to maintain current policies to protect these resources as well as to consider additional policies and programs to ensure the long-term scenic quality of the town.

The key regulatory policy for protecting the town's scenic quality is the designation of a Skyline Zoning District that limits uses to agriculture, forestry and recreation, but does not allow for any structures. There is also a Steep Slope Protection provision in the Zoning Ordinance that limits activity on slopes greater than 15%.

Issues and Challenges

Sandwich has a diversity of geography, including hilly terrain, a variety of forest types, open agricultural lands, an abundance of water resources and rich wildlife resources that make it a desirable community to live in. The challenge for the town will be how to protect and conserve these resources.

Agriculture and Forest Resources

Although high quality agricultural soils are limited, Sandwich can continue to derive social and economic value from active agricultural activities. Like the town's forest resources, farmlands are also a part of the town's historic fabric and scenic quality. These resource areas should be actively managed and protected for the long-term value to the Sandwich community. Specific challenges, issue and action steps for protection are discussed in the Land Use Chapter.

Surface and Groundwater

Sandwich is blessed with an abundance of high quality surface and groundwater that, like its forest and agricultural resources, provide both environmental and economic value to the community. While the town has a number of water resources protection measures and programs in place, there are areas where further action should be considered. These include:

- Consideration of additional language in the Shoreland District with respect to prohibited use and activities.
- Better protection for lower order streams and brooks which are not directly covered by either state or local regulation.
- Greater protection for the town's aquifer resource areas

Wetland and Water Resources

Sandwich contains over 3,200 acres of wetlands identified under the National Wetland Inventory and over 4,700 acres of hydric soils. In addition, the town has identified eight prime wetlands. There are also almost 100 miles of streams and rivers as well as over 2,300 acres of open water. The town will need to continually manage and protect these resource areas. At present, there are both regulatory and non-regulatory programs protecting these resources. Consideration might be given to the following:

- Coordination of water quality protection efforts including a review / revision of municipal ordinances, protection of ground water resources, and continued monitoring

of water quality, such as the current support of water quality sampling efforts of the Green Mountain Conservation Group.

- Encouraging water monitoring programs in all watersheds and major rivers in town.
- Encouraging best management practices for development and stormwater management through regulatory changes and educational outreach.
- Evaluating town ordinances to minimize fragmentation of agricultural and forest lands, limit steep slope development and cuts; and minimize impacts to streams, lakes and ponds through shoreland regulation.
- Continuation and enhancement of educational programs that are directed at the need to protect and conserve the community's natural resources.

Wildlife

In terms of protecting the wildlife resources of Sandwich, the best overall approach is to protect habitat. With the amount of conservation land in the White Mountain National Forest, clearly the higher elevation northern hardwoods and spruce-fir habitats are well protected. Low-elevation mixed forests are also fairly well-conserved, although riparian lands and shoreland habitats could be better conserved. Providing ample opportunities for all resident and non-resident populations to view, hunt or otherwise appreciate wildlife should become a part of any major development proposal that faces the town.

Conservation Lands

There are over 25,000 acres of conservation or protected lands in Sandwich, of which over 17,000 acres are in the WMNF. In addition, there are numerous scientifically documented resource areas including critical water resources, forest resources and high quality wildlife habitat that should be protected and properly managed for the benefit of current and future citizens of Sandwich and the region. There are several local/regional initiatives to protect land in Sandwich. Sandwich may wish to support the expansion of existing conservation lands, as well as to ensure long-term management of existing conservation lands.

Action Plan

Vision Goal for Natural and Scenic Resources

Preserve Sandwich's natural environment, scenic beauty, open space, clean water and wildlife through well managed growth and careful planning.

Objective NR 1: Protect our water resources including: surface waters watersheds, shorelines, wetlands, floodplains, and aquifers.

Actions

- NR 1.1: Update the Prime Wetland designations and documentation including accurate mapping for each of the identified Prime Wetlands.
- NR 1.2: Consider more stringent requirements for activities adjacent to Prime Wetlands such as expanded setbacks.
- NR 1.3: Consider separating the shoreland aspects of Wetland Protection and placing them into a separate, but compatible, local Shoreland Protection Overlay District that would focus particularly on lower order streams not covered by the state Comprehensive Shoreland Protection Act, RSA 483-B (CSPA). Such an ordinance could contain sections on permitted and prohibited uses, and standards for activities within a Riparian Zone (e.g., 50 feet from Reference Line).
- NR 1.4: Consider adoption of specific, more restrictive shoreland and watershed protection measures within the Beebe River Watershed and portions of the Ossipee River and Winnepesaukee River watersheds.
- NR 1.5: Amend the subdivision and site plan review regulations to incorporate stormwater management standards that require best management practices for Low Impact Development and minimize the amount of impervious surfaces for any land use activity that disturbs more than 20,000 sf of land. At a minimum these regulations should incorporate by reference the standards of appropriate New Hampshire statutes.
- NR 1.6: Consider amending current Floodplain Management Section of the Zoning Ordinance or adopting a revised Flood Hazard Overlay District. Such an ordinance should be similar to other overlay districts that include permitted uses, prohibited uses and also contain requirements such as:
 - Restricting placement of principal building unless no other location on lot of record prior to adoption of ordinance;

- Prohibiting uses that have high potential for causing hazardous condition; and
- Requiring new structures or additions to be 1-3 feet above base flood elevation.

NR 1.7: Ensure compliance with state and town regulations involving water resource protection, particularly with respect to wetlands and shorelands.

NR: 1.8: Consider the development of a town-wide Water Resource Inventory and Management Plan consistent with NH RSA 4-C: 22.

NR: 1.9: Adopt an Aquifer/Groundwater Protection Ordinance to protect the quality of the water in Sandwich's stratified drift aquifers.

Objective NR 2: Preserve Sandwich's surface water resources by meeting state water quality standards.

Actions

NR 2.1: Establish a testing program for septic systems by town personnel within the Shoreland Residential District, to assure proper function with no measurable 'leakage' into nearby town waters.

NR 2-2: Continue monitoring of water quality, such as through the water quality sampling efforts of the Green Mountain Conservation Group on the Cold River and Pond Brook and the Squam Lake Association through the UNH-LLMP on Squam Lake.

NR 2.3: Establish water monitoring programs in all watersheds and major rivers and ponds in town through NHDES VRAP and/or VLAP programs or UNH-LLMP sampling programs to complete the set of significant ponds and bays within Sandwich's boundaries under this program.

Objective NR 3: Protect valuable natural resource features and communities including high value wildlife habitat. (See related Objective and Actions)

Actions

NR 3.1: Develop a town-wide open space plan that identifies and maps high value natural resource areas throughout Sandwich and recommends priority areas for protection.

NR 3.2: Amend the Subdivision and Site Plan Review Regulations to require an applicant to undertake the following options at the Planning Board's discretion:

- An environmental impact statement and recommendations for mitigation.
- A wildlife habitat study and recommendations for mitigating impacts

Objective NR 4: Encourage educational and outreach programs related to the protection and long-term stewardship of Sandwich's natural resources.

Action

- NR4.1: Coordinate efforts of town and private organizations to inform and educate townspeople regarding land use, conservation and natural resource issues.

Objective SQ.1: Maintain and protect the quality of Sandwich's scenic environment.

Actions

- SQ: 1.1: Undertake a Visual Resource Analysis based on a systematic approach to identifying and prioritizing visual resources such as that described in the NH OEP Bulletin #10, *Preservation of Scenic Areas and Viewsheds* or the US Bureau of Land Management's Visual Resource Management program. See link below.

<http://www.blm.gov/nstc/VRM/>

Such a survey could begin with existing scenic views identified in the current Master Plan.

- SQ: 1.2: Amend the Zoning Ordinance such as through additions to the Skyline District or Steep Slope Protection to provide for greater protection of scenic quality from the impact of development.
- SQ: 1.3: Adopt provisions within the Subdivision and Site Plan Review Regulations to allow the Planning Board to require location of such utilities as electrical, telephone and cable underground for large multi-lot subdivisions.

Vision Goal for Natural Resource Conservation

Support and encourage protection and management of high value conservation and open space lands that are linked by trails and/or wildlife and natural resource corridors.

Actions

- NRC 1.1: Identify areas of high ecological and conservation value to establish conservation/land protection priorities.

Note: For the long-term the Town should acquire a single Geographic Information System (GIS) for use by Town Boards and Departments that will satisfy the needs of the Planning & Zoning Boards, Conservation Commission, Assessor, etc. Such a system will be able to integrate both mapped data with town record data and will allow the town to update its information data base. It will also allow the town to undertake analysis of mapped information for better decision-making, such as suggested in Land Use Action LU 1.1

NRC 1.2: Coordinate current, and create additional, non-motorized trail networks by connecting trails, pathways and sidewalks and Class VI roads.

NRC 1.3: Forecast potential land acquisition/conservation expenditures and consider directing more than the current 25% of Land Use Change Tax (LUCT) to the town Conservation Fund.

Appendix A

Squam Range-Beebe River—An Area of High Conservation Value

In 2006, the Squam Lakes Conservation Society prepared a report—*Squam Range Perspective*, authored by Rick Van de Poll—on the ecological and conservation value of the Squam Range that incorporates Sandwich as well as Holderness and Campton. He also authored a similar report in 2007 that included the Beebe River watershed which is adjacent to the Squam Range and located in both Sandwich and Campton. It is a tributary to the Pemigewassett River. Taken together, there is extensive wildlife habitat, well managed forests, blocks of unfragmented land, and a connection between the White Mountain National Forest and Squam Lakes that makes the conservation of these areas a project of regional, statewide and national significance.

The following is a summary of these reports. While this resource encompasses several towns much of what is documented below is relevant to Sandwich.

Ecological Setting

The Squam Range is a largely a roadless tract of land of over 20,000 acres situated in between the White Mountain National Forests to the north and the Squam Lakes watershed to the south. Seven named, low to middle elevation peaks cap the range from the 1265-foot Cotton Mountain in the southwest to the 2220-foot Doublehead Mountain in Sandwich in the northeast.

The range is largely forested, with a few areas of clear cuts and other openings due to historic settlement along NH Route 113. There are very few wetlands or open water bodies on the range proper, although such resources exist in the nearby lowlands such as at Kusumpe and Intervale Ponds in Sandwich and along the Beebe River. In addition, scattered forested swamps, beaver marshes, or vernal pools can be found along perennial drainage ways and on side slope benches, although very few exceed 10 acres in size. Steep slopes that average between 25 and 40% are bisected by intermittent and upper perennial streams that dot the upper and middle slopes.

Beebe River, on the north side of the Squam Range, is a wild and important tributary of the Pemigewassett River. It rises on the south slopes of Sandwich Dome in the White Mountain National Forest and descends through rocky cataracts and a series of beaver ponds to the Pemigewassett River in Campton. Its upper watershed is ringed by a series of 2,000-foot peaks that are entirely undeveloped.

Ecological Attributes

The Squam Range-Beebe River is in a unique location since it is near the junction of all three ecoregions in New Hampshire--the White Mountain in the northern part of the state, the Vermont-New Hampshire Uplands in the western part of the state, and the Coastal Plain-Sebago Hills in the eastern part of the state. Consequently, this area contains a mix of species that represent a broad range of climate tolerances and habitat types.

A two-year bio-inventory completed for the Squam Lakes Association in 2001-2002 came up with the following:

- over 550 species of vascular plants including black gum (tupelo), white oak, gray dogwood, New Jersey tea, narrow-leaved goldenrod
- 23 species of amphibians and reptiles,
- 27 species of freshwater fish,
- 191 species of birds
- 43 species of mammals, and
- 683 species of fungi.

Within these assemblages, roughly 5% of them are rare in the state, many of which, such as the American marten are at their southernmost limits, while others, such as the bridge shiner and the purple clematis, are at their northernmost limits.

The Pine Marten — A Threatened Species

A good example of this biodiversity is the pine marten or American Marten which inhabits the high elevation Spruce-Fir forest type within the Squam Range as well as some lowlands such as around Kusumpe Pond which is believed to be the southernmost occurrence in the state. This habitat location is unusual, since almost all of the records for the pine marten are for the White Mountains and to the north. Furthermore, the pine marten is considered a threatened species by NH Fish and Game Department is.

It appears that older forests are critical for their survival, especially where their range overlaps with the fisher. Increasing road density and timber harvesting has been shown to have a negative effect on their population. The Squam Range provides an unfragmented mix of conifer and deciduous forest to allow this species to exist at the very edge of its range. It also provides ready access to a core population in the higher elevation White Mountain National Forest to the north and east. Maintaining the structural integrity of the ridgeline spruce-fir forest, as well as an unbroken forested corridor to adjacent lowlands is important for species survival.

A forest inhabitant often associated with the range of pine marten is the Canada lynx. This *federally* threatened mammal also occupies spruce-fir forests and is rumored to exist in the Squam Range area. The statewide *Wildlife Action Plan* (NH Fish & Game, 2005) shows the Squam Range as the southernmost extent of contiguous lynx habitat according to extensive habitat modeling.

Rattlesnake Habitat

Both East and West Rattlesnake derive their name from the eastern timber rattlesnake which was attracted to the dry, south-facing talus slopes and ledges that at one time provided suitable winter habitat. No rattlesnakes currently occur on East or West Rattlesnake. However, there is a high-quality habitat rich in a number of plant and animal species with southern affinities. For example, New Jersey tea and gray dogwood reach their northern limit in the state. There are also sizable old growth white oaks and direct evidence of what appears to be the largest, truly old growth forest on the Squam Range. Over 40 acres of undisturbed woodland exist in pristine condition – complete with trees over 300 years old, old fire-scarred tree boles, desiccated downed logs, and intact, turfy ‘lawns’ of grasses and forbs. Although not all within Sandwich, the 2001 study recorded over twenty-four rare plants stations representing 12 species and over 3000 individuals on West Rattlesnake alone

Old Growth Forests

As described above, the Squam Range contains a number of late successional to old growth forests that are increasingly rare in a state characterized by intensive logging and development. Within Sandwich there are several old growth forest areas. The talus area below Mt. Squam contains old growth northern hardwoods that have never been cut or burned. This patch is discontinuous with an old growth yellow birch-red spruce forest on Mt. Doublehead of unknown size. Since relatively few of the upper slopes of the Squam Range have been surveyed, more pockets of old growth likely exist.

Conservation Potential of the Squam Range

At present, the Squam Range remains a remarkably pristine area in an area of seasonal population growth. The Squam Lakes area serves a population base of over 5,000 year-round and over 12,000 summer residents. In spite of recent land use regulatory initiatives, there is still significant potential for second home growth in the watershed.

Views

Several excellent view sites exist in the Squam Range including the south side of Doublehead. The site has been recently addressed by two critical conservation acquisitions by the Squam lakes Conservation Society. Other views still exist a number of which are identified in the 1980 Master Plan.

Critical Forest Blocks

The Squam Range is one of the critical roadless forested blocks in central New Hampshire. A recent survey of the Mooney Point area yielded field data on a Hemlock-Beech-Oak-Pine Forest of statewide significance with white pines averaging 110 – 130 feet tall and up to 4 feet in diameter. An even older patch of a Hemlock - White Pine Forest exists on conservation land in Bear Cove.

Watershed Protection for Aquatic Habitat

This land area contains the largest streams on Squam Lake, all of which provide clean, low-nutrient, and oxygen-rich waters to Cotton, Livermore, Cairns, Bennett, Squaw and Bear Coves. At least two of the brooks contain naturally spawned salmon parr and all of them contain brook trout for part of the year. White suckers, slimy sculpin, plus a myriad of aquatic invertebrates testify to the high quality of the water, and the abundance and diversity of aquatic plant life in Squaw Cove attests to the regular supply.

Summary

Protection of the Squam Range and Beebe River area in Sandwich as well as the other communities that define this unique area is critical. The quantity and character of its diverse wildlife habitat, its vital role as a water source, the unfragmented nature of its forest growth, a tradition of low-impact recreational uses, the history of private ownership, the connection between Squam Lake to the White Mountain National Forest, and its viewshed value to Squam Lake and Pemigewasset Valley residents combine to make this area a premier conservation resource.

The potential for significant conservation of lands in the Squam Range is tremendous. The area has undergone relatively few landowner changes over the last hundred years, and it has a history of conservation-minded organizations that support sound land use management.

- Squam Lakes Conservation Society has a solid foothold of conserved lands in the Squam Range, and is actively working to protect critical parcels within view of the lake.
- Squam Lakes Association has maintained over 35 miles of trails that are used by over ten thousand people each year. Its affiliation with Plymouth State University, and the top-quality research being supported by PSU's Center for the Environment, makes the Squam Range a superb laboratory for long-term research and graduate education.
- Squam Lakes Natural Science Center has upheld a reputation of excellence in environmental education among primary and secondary schools, and continues to attract and inform visitors about the natural beauty of the area.
- Lakes Region Conservation Trust holds a critical property at its Kusumpe-Intervale Preserve and is actively supporting the conservation of the Burleigh Farm lands.
- Sweet Water Trust has already invested its time and financial support to each of the above organizations and continues to be a leading supporter of forever wild lands in the Squam Range.

Each of these organizations recognizes the value of the natural landscape on the Squam Range and each is playing a critical role in the furtherance of its protection.

APPENDIX B
Sandwich Conservation Lands-January 2011

Name	Tax Map Reference (Range-Lot)	Primary Protection Agency^a	Primary Protection Type^b	Acreage^c
Federal				
White Mountain National Forest	R14-15	USDA	FO	16,934 (69.9% of total)
State				
Five Finger Point	R21-7	UNH	FO	71 (0.3% of total)
Private				
Captain Neal Brook	R5-8	TOS	CE	100
Bates	R6-5	TOS	CE	264
Emerson-O'Neill	R9-4	TOS	CE	12
Crooker	R9-8B	TOS	CE	22
Henry Easement	R9-29, 29A, 30	TOS	CE	218
Emerson ^d	R10-1, 10-4, U1-3, U3-1	TOS	CE	609
Myers Schneider	R11-40	TOS	CE	176
Jackson & Huston/Heritage Woods	R11-37E, F, G, H	TOS	CE	16
Dyer	R12-64	TOS	CE	8
Adriance	R12-78B	TOS	CE	20
Sandwich Town Forest ^e	R14-17	TOS	FO	68
Mutter	R15-1	TOS	CE	433
Cook	R18-2	TOS	CE	273
Sandwich Notch Park Paige	R18-4	TOS	FO	16*
Sandwich Notch Park Keith	R18-5	TOS	FO	30
Colonel Lewis Smith Lot Peaslee	R18-6	TOS	FO	70*
Sandwich Town Forest	R19-11	TOS	FO	80
Total Acreage-Municipal				2,415 (10.0 % of total)
Private				
Whites Forest	R2-2	LRCT	FO	42
Butters	R2-23A, 26	LRCT	FO	23
Gifford Trust	R2-62	LRCT	CE	21
Bearcamp Conservation Area	R2-85	LRCT	FO	126
Blodgett	R3-1	LRCT	CE	58
Alice Bemis Thompson Wildlife Refuge	R3-58, 59, 59A, R2-8A	Audubon	FO	279
Wyman Easement	R3-61A	Audubon	CE	10
Nye	R4-30	SPNHF	CE	505
Mill Brook Expansion	R4-21A	LRCT	FO	17
DW Emerson Preserve	R5-23	SLCS	CE	121
Daniels (A) / Daniels J.	R5-30	SPNHF	CE	86
Daniels (B) / Daniels R.	R5-30B	SPNHF	CE	60
Tewksbury Preserve	R5-31	LRCT	FO	409
Rich Memorial Forest	R5-39	NEFF	FO	90
Wonalancet Nominee Trust	R5-42	GMCG	CE	180
Lincoln / Bates	R6-8	SPNHF	CE	106

Pohl Easement	R8-30	SPNHF	CE	155
Maple Ridge Road Lot Emerson 5	R8-45	LRCT	FO	70*
Upper Road Lot Emerson 4	R8-53	LRCT	FO	53*
Red Hill River Lot Emerson 2	R11-20	LRCT	FO	372
Wentworth Hill Road Lot Emerson 3	R11-49	LRCT	FO	57
Walsh	R13-4, R8-59, 30C	LRCT	CE	116
Sharp Forest	R13-5A, 5B	SPNHF	FO	64
Chapman Wild Bird Sanctuary /Visny Woods	R14-7	LBC	FO	70
Chapman Wild Bird Sanctuary	R14-6, 13	LBC	FO	40
Sandwich Notch Emerson 1	R18-7	LRCT	FO	250
Levi Smith Conservation Area	R19-26	SLCS	FO	124
Metcalf Preserve	R19-36	SLCS	FO	86
Beede Farm/Lost Lake Preserve	R19-58E, 58F, 58G	LRCT	FO	140
Barville Pond Easement	R20-2	SLCS	CE	20
Merriman Forest	R20-27, 38	SPNHF	FO	102
Sabine Point	R20-28F, 28G	SLCS	CE	3
Mayer Family Trust	R20-42	SLCS	CE	41
Sharpland Campstead Easement	R20-47	SLCS	CE	16
Coolidge Beede Forest	R20-51, 51A	SLCS	CE	302
Kusumpe Brook Association	R20-56	SLCS	CE	6
Kesumpe/Intervale Ponds	R20-58C, 58D, 21-29A	LRCT	FO	92
Ponzi Conservation Area	R20-63	SLCS	CE	28
Smith Brook Conservation Area	R21-1A	SLCS	CE	3
East Rattlesnake I	R21-4	SLCS	FO	65
Twig's Island	R21-4A	SLCS	FO	0.1
Lily Cove I	R21-4B	SLCS	CE	14
Lily Cove III	R21-4G	SLCS	FO	15
Lily Cove II	R21-5B	SLCS	CE	3
Pinehurst	R21-6	LRCT	CE	32
Allen Preservation Easement	R21-6B	SLCS	CE	6
Kirk Campstead Easement	R21-6C	SLCS	CE	8
East Rattlesnake II	R21-13A	SLCS	FO	23
Butterworth Natural Area	R21-13B, 13D	LRCT	FO	34
Steward	R21-18A, 21-36	LRCT	FO	6
Isaacs Easement	R21-22	LRCT	FO	213
Suzanne Peerface	R21-37	SLCS	CE	9
Otter Cove	R21-42, 42A	SPNHF	FO/CE	63
Hoag Island	R21-43	SLCS	CE	90
Doublehead Preserve	R22-4	SLCS	FO	58
Eastman Brook	R22-13	SLCS	CE	88
Red Hill River Conservation Area	U3-2	LRCT	FO	14*
Total Acreage-Private				4816 (19.9% of total)
Total Acreage-All conservation Land				24,404

Notes:

- a. Primary protection type: CE = Conservation Easement; FO = full ownership.

- b. Agency: TOS = Town of Sandwich; LRCT = Lakes Region Conservation Trust; Audubon = Audubon Society of NH; SPNHF = Society for the Protection of NH Forests; NEFF = New England Forestry Foundation; GMCG = Green Mountain Conservation Group; LBC = Leonard Boyd Chapman Wildbird Sanctuary and Visny Woods.
- c. The reported acreage is that given in the 2010 Town Assessor's database. For a number of properties, the acreage shown in Town records differed (>25%) with that shown in the UNH GRANIT database as of January 9, 2011; those for which this difference could not be resolved are marked with an asterisk (*). Further work is needed to determine the correct conservation acreage and to ensure the accuracy of Town records.
- d. Emerson, Town of Sandwich conservation easement. Although the acreage and boundaries of the conservation easement did not change, R10-1 and 10-4 have been subdivided to create several new lots. The details of these subdivisions and these new lots, some created in 2010, are not contained in this table and should be added as the table is updated.
- e. Town Forest (R14-17). Town Assessor's records (and recent Town reports) say that this parcel contains 100 acres although a recent survey shows that the actual land area is 68 acres. This latter value (only slightly different than the GRANIT value of 65 acres) is used in this table.

Appendix C

Rare Threatened or Endangered Species and Natural Communities

NH NATURAL HERITAGE BUREAU



Town		Listed?		# reported last 20	
Flag	Species or Community Name	Federal	State	Town	State
<u>Sandwich</u>					
Natural Communities - Terrestrial					
**	Hemlock - beech - oak - pine forest	--	--	1	11
**	Northern hardwood - spruce - fir forest	--	--	1	12
**	Red oak - pine rocky ridge	--	--	1	14
**	Rich red oak rocky woods	--	--	1	21
Natural Communities - Palustrine					
**	Black gum - red maple basin swamp	--	--	1	28
**	Medium level fen system	--	--	1	59
***	Poor level fen/bog system	--	--	1	27
Plants					
**	American Cancerroot (<i>Conopholis americana</i>)	--	T	1	24
	Budding Pondweed (<i>Potamogeton pusillus</i> ssp. <i>gemmiparus</i>)	--	E	Historical	6
*	Douglas' Knotweed (<i>Polygonum douglasii</i>)	--	E	1	11
	Dwarf Bulrush (<i>Lipocarpus micrantha</i>)	--	E	Historical	3
**	Fern-leaved False Foxglove (<i>Aureolaria pedicularia</i> var. <i>intercedens</i>)	--	T	2	20
**	Grassleaf Goldenrod (<i>Euthamia caroliniana</i>)	--	E	1	6
	Green Adder's Mouth (<i>Malaxis unifolia</i>)	--	T	Historical	57
**	Missouri Rock Cress (<i>Arabis missouriensis</i>)	--	T	1	13
	Mountain Firmoss (<i>Huperzia appalachiana</i>)	--	T	Historical	14
	One-sided Rush (<i>Juncus secundus</i>)	--	E	Historical	6
	Purple Clematis (<i>Clematis occidentalis</i>)	--	T	Historical	25
	Reversed Bladderwort (<i>Utricularia resupinata</i>)	--	T	Historical	15
**	Rock Sandwort (<i>Minuartia michauxii</i>)	--	E	1	3
***	Three-birds Orchid (<i>Triphora trianthophora</i>)	--	T	1	25
	Wiegand's Sedge (<i>Carex wiegandii</i>)	--	E	Historical	6
	Wild Senna (<i>Senna hebecarpa</i>)	--	E	Historical	10
	Yellow Lady's Slipper (<i>Cypripedium parviflorum</i> var. <i>makasin</i>)	--	E	Historical	10
Vertebrates - Mammals					
**	American Marten (<i>Martes americana</i>)	--	T	1	69
Vertebrates - Birds					
**	Bicknell's Thrush (<i>Catharus bicknelli</i>)	--	SC	1	18
**	Common Loon (<i>Gavia immer</i>)	--	T	5	254
**	Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	--	T	1	12
**	Rusty Blackbird (<i>Euphagus carolinus</i>)	--	SC	2	8
**	Vesper Sparrow (<i>Poocetes gramineus</i>)	--	SC	1	12
Vertebrates - Reptiles					
**	Smooth Green Snake (<i>Ophodrys vernalis</i>)	--	SC	1	37
Vertebrates - Fish					
	Lake Whitefish (<i>Coregonus clupeaformis</i>)	--	SC	Historical	8
Invertebrates - Dragonflies & Damselflies					
**	Ebony Boghaunter (<i>Williamsonia fletcheri</i>)	--	SC	1	2

Listed?	E = Endangered	T = Threatened	SC = Special concern	M = Monitored
Flags	**** = Highest importance *** = Extremely high importance ** = Very high importance * = High importance	These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town. Please contact the Natural Heritage Bureau at (603) 271-2214 to learn more about approaches to setting priorities.		

3. Land Use

Sandwich--Geographically Large with Limited Development

In brief Sandwich has:

- Over 60,000 acres or approximately 94 square miles. It is one of the largest communities in the state.
- About 17,000 of these acres, about 29% of the town, are within the White Mountain National Forest,
- Over 90% of its land is undeveloped while about 10% is in agriculture and buildings—mostly single family homes.

Overall Land Use/Land Cover—Most of Sandwich is Undeveloped

While almost 90% of Sandwich is forested, only about 1.5% is developed as buildings—mostly single-family residences. Even removing the White Mountain National Forest lands from Sandwich's total land area, Sandwich is still only 2% developed as buildings. Agriculture and open land is about 8% of Sandwich.¹ These figures reveal the fact that Sandwich is inextricably linked to its natural resource base of forests and open lands. See **Map 1, General Land Use/Land Cover**.

Much of Sandwich's developed areas occur in a linear fashion along the town's roads or in small village areas, such as Center Sandwich. Some of the developed area is related to sand and gravel operations near the town's eastern border with Tamworth.

Developed Lands

These lands comprise 901 acres and include the following categories of use:

Developed Land Category	Acres
Residential/commercial	40
Transportation	708
Disturbed Land (gravel pits, etc.)	153

The residential/commercial category is relatively small and is based solely on the literal area of land associated with a building as determined from aerial photo interpretation. Most of

¹ Land cover calculations are based on interpretation of 30-meter satellite imagery from the 2001 New Hampshire Land Cover Assessment. For residential and commercial use, only disturbed areas with a structure on approximately one acre are noted. In reality, there are likely to be a larger number of acres devoted to residential activity, but this methodology is not able to capture this activity.

these areas are within Center Sandwich and North Sandwich villages. Because of the relatively small size of some structures, they may get grouped into the agricultural or forest category, particularly when there are numerous acres of open land associated with a residence.

Note: The 2% figure used for developed land differs from the approximately 30% developed land figure used in the Economic Conditions Chapter. This figure is based on tax parcels which assigns a land use category to the whole parcel even if only a portion of it is developed. For example, a ten acre lot may have only 5,000 sf devoted residential, but for assessing purposes the whole lot may be considered residential or developed.

The transportation category includes all the roadways in Sandwich, while the disturbed land is primarily related to the sand and gravel extraction operations along Route 113 near the Tamworth boundary and the fairgrounds in Center Sandwich, which comprise about 30 acres.

Open and Agricultural Lands

These areas, which comprise 4,363 acres, are open fields, fields in agricultural activity and the power line corridor that bisects Sandwich from east to west, approximately 270 acres.

Historically, farming was one of the main economic activities in the early settlement of Sandwich, from the 1700's through early 1800's, consuming much of the acreage in town. Over time, many families migrated to large towns and cities where there was more employment, or to the Midwest where soils were more fertile. With this migration, the agricultural fields and livestock pastures reverted to scrub, woodland and forest. According to the 1980 Master Plan, there were only approximately 18 active farms remaining in Sandwich. However, most of these were not full-time farms. Farm owners needed to rely on other sources of income to make a living. Most of the farms produced fruit, vegetables, hay, cattle, poultry, maple syrup and honey. Previous data sources from 1980 identified 1,564 acres of agricultural land in the community, of which 1,190 acres were active. Although diminished, agriculture continued to contribute to the open spaces and character of the community in subsequent decades.

Recent data on farm activity by the USDA is no longer kept with the same degree of detail as in 1980, in order to protect individual privacy. General data is kept by zip code—not by town—for the number of farms and general farm size, updated every 5-7 years. The USDA defines a farm as one that makes \$1000 or more in annual profits. According to this definition, in 2002 there were 22 farms in the Center Sandwich zip code and seven in the North Sandwich zip code. Of those farms making over \$1,000, 11 were greater than 50 acres and 18 were less than 50 acres. By 2007 there were three fewer farms, with a total of 19 farm operations in the Center Sandwich Zip Code (03227), comprising 9 farms of greater than 50 acres and 10 that were less than 50 acres. In the North Sandwich Zip Code (03259) there

were more than double the number of farm operations at 15—8 greater than 50 acres and 7 that were less than 50 acres.

Note: According to Current Use by Type data from the town's assessor file, there are over 100 parcels recorded as farmland, ranging in size from one acre up to 88 acres, for a total of 894 acres.

As an indicator of the support for agricultural activity in Sandwich, the 2010 Town Meeting voted to establish an Agricultural Commission with the purpose of protecting agricultural lands, preserving rural character, providing a voice for farmers and encouraging agriculture-based businesses.

Forest Lands

By far the largest area of land cover in Sandwich is forest lands, covering 52,621 acres or almost 90% of the town. Approximately 17,000 acres of this total is in the White Mountain National forest. The town's large quantity of forest resources have provided a significant economic driver to Sandwich for many years.

Managed Forests

Based on Carroll County Conservation District data, there are forty-one (41) private working forests, with Forest Management Plans totaling some 5,200 acres. In addition, within Sandwich there are twenty (20) private forests comprising 4,800 acres that are in the Tree Farm Program supported by the Carroll County Cooperative Extension. However, there are another 36 tree farms in adjacent communities which have some portion of their holdings in Sandwich. In total, these tree farms comprise 9,400 acres. Of these 36 tree farms, it is very likely that at least 200 acres fall within Sandwich; therefore, there are likely to be over 5,000 acres of managed forest in Sandwich. Landowners in the Tree Farm Program must manage their forest lands to ensure continuous production of commercial forest crops in a manner consistent with practices approved by the American Forest Institute. The number of tree farms has declined since the 1981 Master Plan. Data sources from 1980 identify twenty-nine (29) tree farms (compared to 20 in 2009) totaling 7,144 acres or 12% of the total land area.

Town Forests

Sandwich owns four parcels totaling 161 acres that are designated as town forest and are identified in **Appendix B (Sandwich Conservation Lands) of the Natural Resources Chapter**. Three of these are located between Young Mountain Road and Wing Road west of Route 113 A as shown on **Map 12, Conservation Lands**. The fourth parcel is located off Route 113 associated with the transfer station. There is no management plan for any of the parcels.

Annual Taxable Timber Harvest

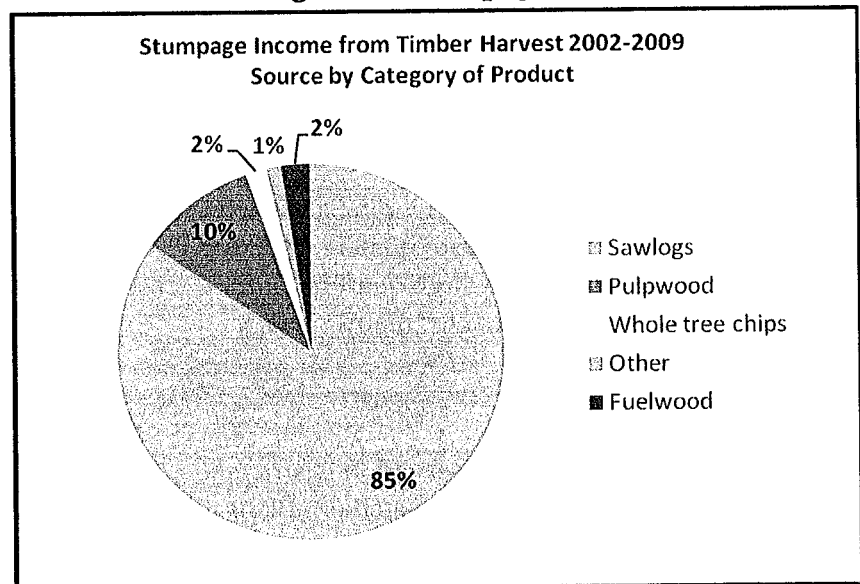
A good measure of the amount of timber that is being cut in Sandwich and its stumpage value can be gained by analyzing the data generated through the state Timber Tax Program. Through this program the town is eligible to receive 10% of the stumpage value cut in the town. As part of this process the town is required to determine the type of timber cut and

its value. Data for the period 2002 through 2009 were analyzed by a town citizen, Ron Lawler, and has been incorporated into this report.

In summary, for this eight-year period, the analysis revealed the following:

- The total stumpage fee was \$3.1M, a significant income to the landowners. See Figure 3.1.

Figure 3-1. Stumpage Income

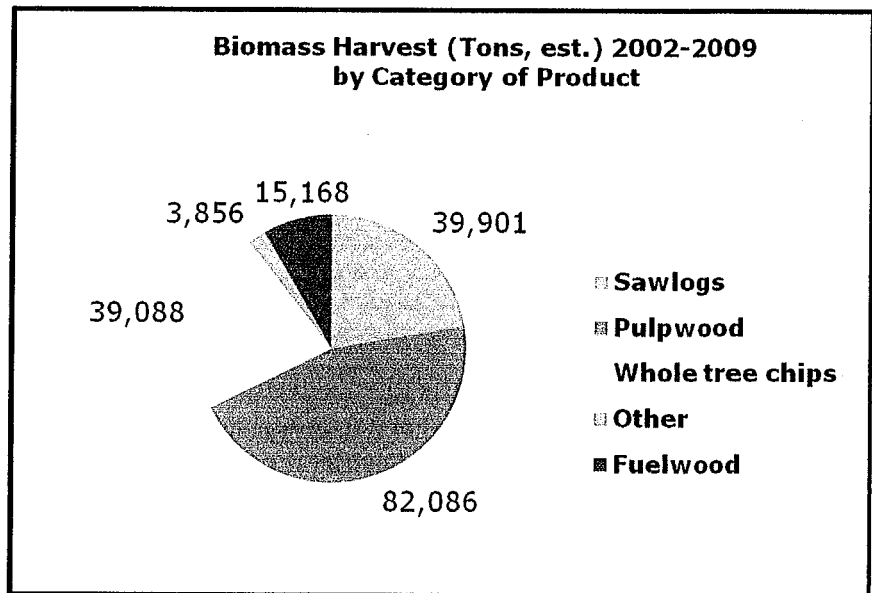


Source: Ronald Lawler, 2009

- Saw logs accounted for most of the income (\$2.6M or 85%) and the cuts involved approximately 230 parcels of land, some with more than one harvest.
- The total acreage of the parcels involved—as opposed to the estimates of the actual cut area—is 16,600 acres, amounting to approximately 25% of Sandwich’s land area
- An average of about \$40K per year was earned by the town in yield taxes.

- In terms of total tonnage or biomass, about half is pulpwood (paper), a third wood chips and cordwood (fuel) and the remainder saw logs. See Figure 3-2.

Figure 3-2 Biomass Harvest



Source: Ronald Lawler, 2009

Potentially Viable Commercial Forest Areas

In the 1981 Master Plan it was reported that more than 50% of the town's land area contained concentrations of timber stands which had sufficient market potential to be harvested. This information was based on a study by the US Forest Service of the town's forests, including timber type and density. Similar studies have not been conducted since then. Based on discussions with the Conservation Commission, a procedure for determining areas of potentially high value for commercial forest production was derived.

First, any areas with slopes greater than 15% were eliminated. Second, only blocks of 50 acres or more were considered. Third, for each block the amount of forest soil groups were determined. The higher value areas for commercial timber included higher value soil groupings. Four ranks were identified in the following order from highest value to lowest:

- Rank 1: 50% or more of Class I A forest soils
- Rank 2: 50% or more of Class IB and IC forest soils
- Rank 3: 50% or more of all Class II Soils
- Rank 4: Any mix of Class I and Class II soils where no individual soil class was greater than 50%

The results are shown on **Map 8, Potentially Commercially Viable Forest Areas**, where the highest ranking area (Class IA soils) is 155 acres, the next highest rank (Class 1B and IC) is over 13,000 acres and the third highest is just 109 acres. The next rank is mixed soils, comprising the largest number of acres, simply meaning that no particular class predominates. It would appear that while Sandwich generally has good soils for forestry, there are not large contiguous blocks of the highest rated soils.

**Forest Blocks Greater than 50 Acres
By Soil Class**

Soil Class	Number of Acres
IFSG Class IA	155 acres
IFSG Class IB o IC	13,003 acres
IFSG Class II (A,B,C<)	109 acres
Mixed Soils	20,855 acres

Current Zoning

The current zoning reflects the town's desire to manage development by identifying the types of uses and controls that are appropriate in different areas of Sandwich. See attached map. For example, the Historic District represents the town's desire to encourage uses and activities that are consistent with its historic character in Center Sandwich.

There are five (5) separate zones:

A. Rural/Residential District

Rural/Residential zoning dominates the town. It is a zone that allows primarily residential structures, including mobile and manufactured homes. It also provides for accessory structures, home occupations, day care, agriculture, recreational uses, gravel pits, such institutions as churches, municipal buildings and schools.

Cluster residential housing is allowed within this district. This regulation allows a greater density of residential units in exchange for the setting aside of common open space for recreation and resource protection. The common open space is to be at least 25% of the cluster development. In order to increase the level of protection, this percentage could be increased. This regulation leaves much of the layout and design standards for any given proposal up to the discretion of the Planning Board. Additional guidelines or standard with flexible provisions might provide a more predictable review process.

B. Historic District

This district is located in Center Sandwich Village and allows all uses permitted in the Rural/Residential District except for mobile homes, manufactured homes, commercial cable TV towers and gravel pits.

C. Commercial District

This zone is located along Whittier Highway (NH Route 25), and allows all use permitted in the Residential District, as well as retail businesses, light industry, electronics assembly, and professional offices, banks and motels. Specific standards for this district include a requirement for a 200 foot wooded buffer between the center line of a public way and any business building, parking lot or storage area.

D. Shoreland District

This zone includes all areas within 600 feet of the following lakes and ponds: Squam, Red Hill, Bearcamp, Little's, Dinsmore, Kusumpe, Intervale and Barville. It allows for single family residential and accessory structures, beaches, parks and boat access, as well as home occupation. There are a number of district standards, including length of shoreline per lot, limits on tree-cutting, stormwater, use of herbicides, pesticides and fertilizer and a prohibition on certain types of uses, such as underground fuel storage tanks. This district covers the main surface water bodies, but does not include riverine shorelands.

E. Skyline District

This zoning district is noted on the Sandwich Steep Slopes Map and recently revised Zoning Map, and corresponds to areas above certain elevations and ridgelines. No structures are permitted. Agriculture, silvaculture and recreation are permitted.

Issues and Challenges

Since much of Sandwich is undeveloped land in forest or open space/agricultural land cover or use, it will be important for the town to manage these lands in a manner that protects its rural and village character. Encouraging environmentally sound forest management and agricultural activity is critical to maintaining this character

For the most part, the Town of Sandwich has developed a set of zoning and land use regulations that are aimed at protecting and conserving its natural, historic and scenic resources that provide the key elements of its rural and village character.

When asked what Sandwich should look like 20 years from now on the Community Survey of 2009, the highest response by far was: *rural, quiet, much like today*. There was also a significant response to having: *slow reasonable growth*. There are several regulatory issues that should be addressed that would contribute to the long term vision of the town.

These include:

A. Land Use Management

- Foremost among the challenges is the need for better spatial digital data, particularly with respect to tax maps and individual map parcels. In addition to the parcel data, it is critical to have both computer hardware and software that will allow for improved managing and monitoring of land use activity, including both the quantity and quality of development in Sandwich.
- For the most part, the map set that is part of this Master Plan will provide the spatial resource data to establish land use policies. The missing piece is the digitized tax maps that can help identify key parcels that might be affected by future land use change or that might be suitable for protection or conservation.

B. Forest Management

- As part of the town's policy for timber management for the timber tax program, individual forest management plans are required. This practice should continue.
- Sandwich owns four parcels totaling 161 acres that are designated as town forest, but no management plan has been prepared for this valuable property.
- While forest management plans are a good practice on individual properties, there is no mechanism for coordinating management plans on adjacent properties. Facilitating timber management plans would encourage groups of adjacent property owners to implement more efficient timber management, as well as coordinating wildlife management and recreational opportunities.

C. Preservation of Agriculture

- While there is a small amount of land devoted to agriculture, and the acreage has declined since the Master Plan of 1981. At the same time there are more active, although smaller, farms. The town should work to maintain or enhance both the amount of agricultural land and the number of farms.
- The establishment of an Agricultural Commission is a good first step in providing a local tool for preservation of agriculture. It is important that this commission undertake activities that will fulfill this mission.
- The land use regulations in Sandwich must allow the greatest possible opportunity to conduct agricultural activities as per NH RSA 672:1, III-b.

"Agricultural activities are a beneficial and worthwhile feature of the New Hampshire landscape and shall not be unreasonably limited by use of municipal zoning powers or by unreasonable interpretation of such powers."

D. Cluster Regulation

The intent of this regulation is to discourage sprawl and protect open space. It would appear that this purpose may not be achieved under the current regulation for the following reasons:

- No minimum size for such a development is provided.
- This regulation only provides for 25% open space. This should be increased.
- There are no dimensional standards.
- There is no documentation of what are permitted and non-permitted uses in the open space area.

E. Shoreland Regulation

- The Shoreland District covers the major surface waters, but not all streams and brooks. While the state Comprehensive Shoreland Protection Act (CSPA) includes Great Ponds and 4th and 5th order streams, it does not regulate lower order streams (1, 2, and 3)

F. Lot Area

- Lot areas are contained in both Article II Section 150-10 of the Zoning Ordinance and Article IV Section 170-21 of the Subdivision Regulations. This repetition is not necessary. The standards should be contained in one regulation or the other, usually in Zoning. See the box below.

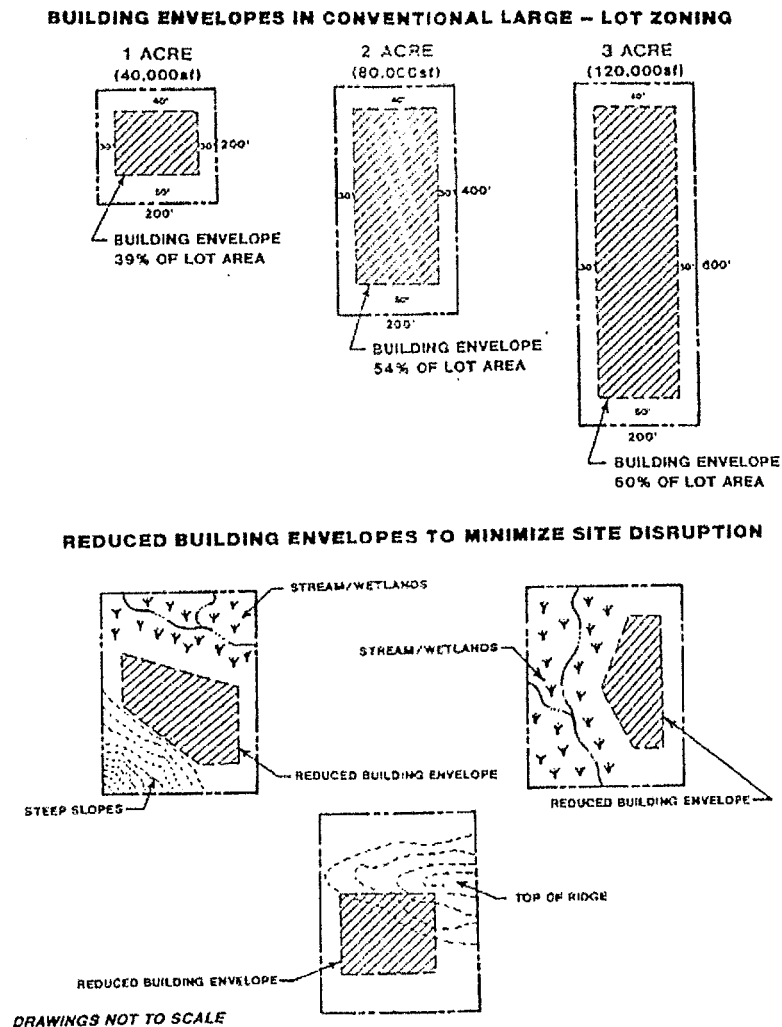
G. Dimensional Standards

- The Zoning Ordinance has a single section on setbacks that applies to all zones. In addition, there are individual setbacks within other districts or overlay zones. Providing dimensional standards by individual zones would clarify this provision and make them particular to each zone. Furthermore, the setbacks are reiterated in the Subdivision Regulations for residential uses. Having these standards in two different regulatory documents may be unnecessary and could raise legal questions.

Note: Zoning ordinances are established to define districts within a community within which particular uses are permitted. In addition, zoning standards usually include dimensional standards within the district. Subdivision regulations provided standards for the layout and character of design for residential development whereas site plan regulations do likewise for commercial, industrial and multi-family residential activities. Usually dimensional standards are codified in the zoning ordinance and can only be changed by a variance procedure through the Zoning Board of Adjustment. *Summarized from The Planning Board Handbook in New Hampshire, 2009.*

- Building area—Except for the limiting provisions for steep slopes and wetland setbacks, the Sandwich Zoning Ordinance requires a building lot to be 100,000 sf. Applying the setbacks of 25 feet per side with 165 foot frontage, the building envelope is 63,250 sf or more than 60% of the lot. While it is important in a rural community like Sandwich to provide flexibility in siting a home, it is not necessary to allow for such a substantial disturbance to take place within an area of this size. A building area can be more narrowly defined and the most suitable areas for development used. Building envelope lines can be drawn outside steep slopes and wetlands that the town wishes to protect. See Figure 1 below. This approach is aimed at siting buildings in suitable areas, even if the overall envelope maybe less than provided under conventional zoning.

Figure 1. Building Envelopes, Conventional and Creative



Source: Preserving Rural Character, PAS Report # 429, American Planning Association

Action Plan

Vision Goal for Land Use

Allow for modest growth of residential development that is of a size, design and quality that is compatible with Sandwich's small town, rural character and recognizes Sandwich's changing demographics.

Objective LU: 1: Implement a digital information system that will link both spatial and community information into an integrated data base.

Actions

- LU 1.1: Create a digital graphic tax map system that can be linked to the assessor's property data base.
- LU 1.2: Consider implementing a Geographic Information System that will incorporate and coordinate all community land related data, both numerical and spatial, into a common system.
 - Research and document current and potential future applications that will benefit from a GIS system.
 - Identify data required to support those applications, and document which data sets are available and which will require development.
 - Identify current and potential future system end-users. Engage these end users early in the process to build awareness and support.
 - Secure community commitment for the GIS system.
 - Identify resources available to support the GIS – staff, equipment, etc., - and those that will need to be acquired.
 - Determine whether hosting the system in-house or contracting system hosting out is most effective for your community. Trained staff and appropriate equipment will be required in both cases.
 - Establish technical and policy committees to develop standards and policies regarding data development, data access, etc.
 - Plan and design system implementation, taking into account the size of your staff, the range and complexity of functions the GIS will be required to support, the IT expertise and support available to you.

Note: For the long-term the Town should acquire a single Geographic Information System (GIS) for use by Town Boards and Departments that will satisfy the needs of the Planning & Zoning Boards, Conservation Commission, Assessor, etc. Such a system will be able to integrate both mapped data with town record data and will allow the town to update its information data base. It will also allow the town to undertake analysis of mapped information for better decision-making.

Objective LU: 2: Implement Land Use Regulations that enable growth to be managed in a manner that will maintain Sandwich's rural and village character.

Actions

LU 2.1: Amend the Cluster Provision in the Zoning Ordinance to ensure that the quality of development is consistent with the town's rural character.

- Clearly state in the Purpose section that this provision is meant to retain the town's rural character.
- A minimum size for the cluster parcel such as 15-20 acres
- Allowance for reduced dimensional standards with flexibility to allow for more compact development and more protected open space.
- Establishing an increased minimum size for the open space, such as 50% of the parcel.
- Defining uses for the open space that maintain the quality and integrity of the area.
- Ensuring that part of the open space can be usable for recreational activities for the residents of the cluster.
- Requiring a vegetated buffer around the cluster development.
- Discouraging lots on the frontage road to the cluster.

LU 2.2: Amend the Subdivision Regulations to minimize the overlap of dimensional and site/design standards between subdivision regulations and the Zoning Ordinance. For example, the lot size determination for clusters is located in both Zoning and Subdivision.

LU 2.3: Amend the subdivision regulations for steep slopes and have it be contained within the Zoning Ordinance. In addition, modify the language to provide more clarity about the amount of 15% slope that is needed to increase the minimum lot size. Currently it is not clear if the 15% applies to the whole parcel or any portion of it.

LU 2.4: Adopt an approach to minimum lot size that defines a building area or envelope of a particular size that is free of environmental constraints (such as 15% or more slope or setback from wetlands) so long as the remainder of the

lot is not disturbed and still meets the overall minimum lot size. Zoning standards could include:

- Maximum building envelope
- Maximum total lot disturbance
- Minimum spacing between building envelopes
- Setback from building envelope to lot line
- Minimum building envelope setback from wetlands, waterbodies, streams and rivers
- Frontage

LU 2.5: Review Subdivision and Site Plan Review Regulations to be sure that they reflect the need to protect rural character and that any development under these provisions minimize environmental impact. Consider appropriate standards for:

- Public roads and driveways,
- Stormwater management, and
- Landscaping.

Objective LU 3: Preserve and protect Sandwich's valuable forest and agricultural resource base by maintaining and enhancing existing unfragmented lands and active farming and forestry activities.

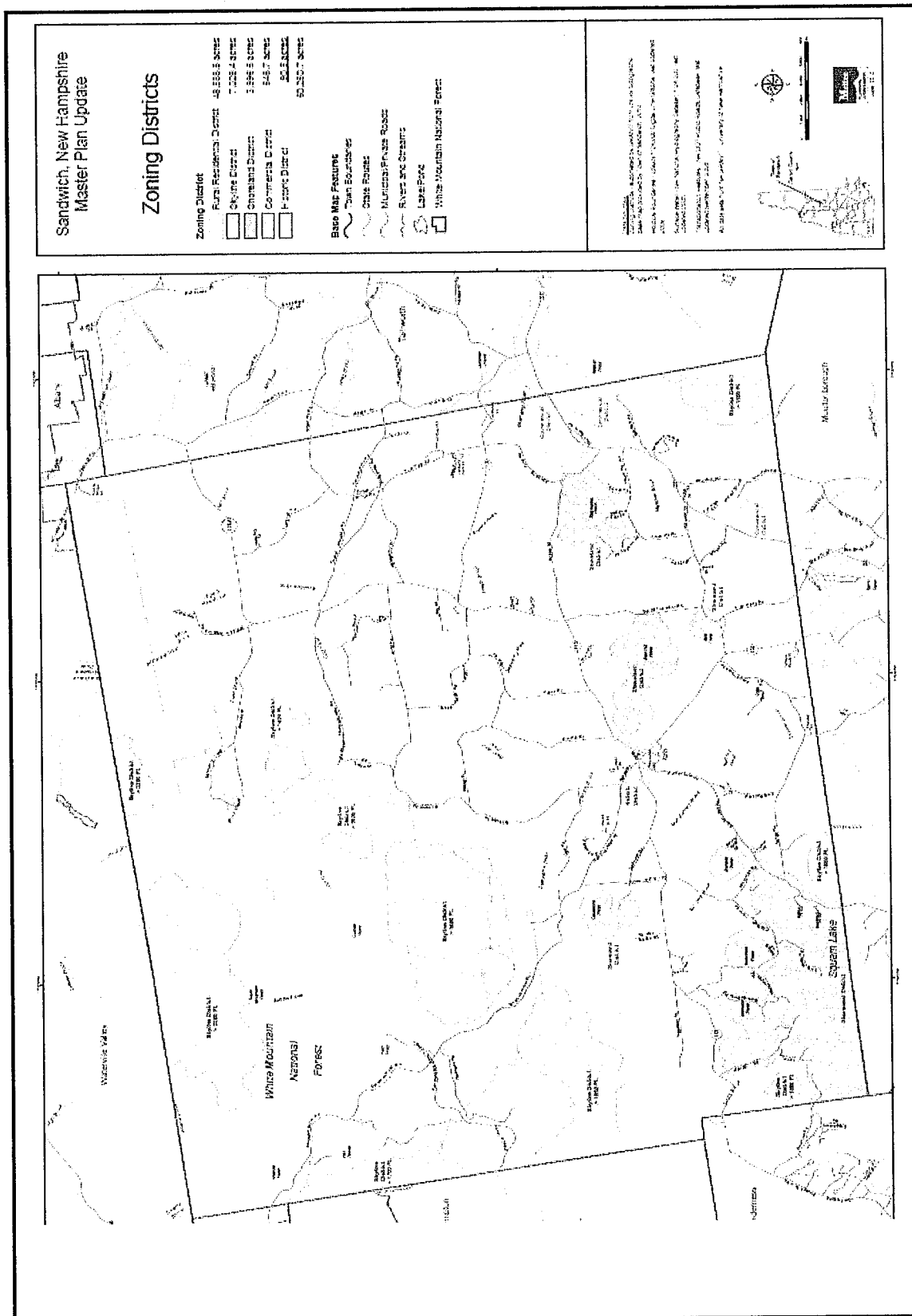
Actions

LU 3.1 Review local zoning, subdivision and site plan review regulations to ensure that the full range of agricultural activities are permitted including subsidiary uses such as:

- roadside stands (size, can any percentage of products be from elsewhere, etc.);
- greenhouses;
- signs—regulations on temporary signs; off-site signs allowed; and
- consideration of nuisance issues.

Note: Under the NH Right-to-Farm Law (RSA 432:33) protects farmers operating in accordance with recognized best management practices from nuisance complaints.

LU 3.2 Establish forest management plans for all town forests.



4. Historic Resources

Overview—*Historical resources are a key component to the town's image.*

The identification, preservation, renovation, and management of historical resources in the Town of Sandwich are key factors in developing policies and strategies to be embodied in the Town's Master Plan. Specifically, it is important to:

- Maintain the physical appearance of Sandwich, which defines most people's image of the Town;
- Attract vacationers and tourists, who, in turn, are significant customers for local business enterprises;
- Support the local construction industry;
- Maintain and improve the local tax base; and
- Enhance the quality of Town Boards' decision making in land use approval applications.

Based on the Historic Resource Survey conducted for the Historic District Commission in 2008, the Community Survey conducted by the Master Plan Update Committee in 2009, and the three public forums during 2009, the people of Sandwich have clearly indicated a high preference for protection of its natural and historic resources.

The historical landscape is a reflection of the town's agricultural past, including both the rural and village areas where agricultural products were milled and sold and supportive businesses and civic institutions thrived. The Town's historic architecture, cemeteries, stone walls, views and roadways are essential components of the charm which residents and visitors alike find so compelling. The identification, preservation, renovation, and management of historical resources are important not only to maintaining townspeople's image of the town, but also an opportunity to provide an important source of economic activity.

Much of the information and material for this chapter came from the following sources:

- *Sandwich, New Hampshire, 1763-1990—A Little World By Itself*, Sandwich Historical Society, 1995
- *Exposed, Unbanked, Weatherbeaten, Knowledge Box: the Schools of Sandwich, New Hampshire 1802-1950*, Compiled by Joan Cook, Sandwich Historical Society, 2004.
- Excursion Reports of the Sandwich Historical Society, various
- Personal communications: Matt Power, Director, Sandwich Historical Society; Sandwich Cemetery Board of Trustees; Joan Cook; Boone Porter.

Summary of History

In 1763 the royal governor at that time, Benning Wentworth, granted a group of Exeter residents a charter for a new town—Sandwich -- in honor of John Montague, the Fourth Earl of Sandwich. The grantees, or proprietors, were responsible for laying out the town and settling the new residents. The Proprietors formed a Settling Committee which visited the town and discovered the area to be so inaccessible that they appealed to the Governor for additional land. The Governor granted this request, and today Sandwich is one of the largest towns in the state—approximately 94 square miles.

The first settlers arrived in 1767, entering the town from the south through Moultonborough and settling in what is now Lower Corner and Wentworth Hill. Records show that by 1773 there were 204 inhabitants, and by 1790 the population of the town was 905. The first church meetinghouse (Congregational) was built in 1824, while the first two schools were built in 1800 (Elm Hill School) and 1825 (John Quincy Adams School). By 1830, Sandwich was a thriving community with farms, traders, mills, schools, churches, and local artisans, with a population reaching 2,744, far more than the current population of 1,366 (*NH OEP, 2007*). Even during this period the primary areas for settlement were Lower Corner, Center Sandwich and the Notch Road. The latter was in part the result of this road being on a primary trade route that was a major link between the Pemigewasset Valley and the Seacoast.

Based on current research and evidence there does not appear to have been any early Native American Indian settlements in Sandwich. There is evidence of such settlements around Ossipee Lake, Plymouth and Lake Winnepesaukee. It is believed that Indians traversed the town as part of their trading and migration pattern.

Most of the settled land area in town was devoted to agriculture. The form of the agricultural landscape was directly related to the original town survey that created a rectilinear pattern of land subdivision. Much of the original and current road system was constructed to access these agricultural lots. Today's rural landscape is a reflection of the original agricultural landscape—the layout of property lines, stone walls, fences and fields derive from the original survey. Almost all of the farms were below 1500 feet, and although the most desirable locations were on lower hilltops, such as Wentworth Hill, there were many on relatively steep hillsides in such locations as Sandwich Notch, Mt. Israel, and the Squam Mountains. These farms produced hay, corn, wheat, oats, and potatoes and kept primarily cattle, sheep and hogs.

Closely associated with the agricultural activity were the water powered mills that processed corn and grain produce, wool and timber. At one time there were 36 mills, with major clusters near Center Sandwich and Weeds Mills in North Sandwich.

By 1850, with a population of 2,577, there were 380 farmers, 32 shoemakers, 22 laborers, 10 carpenters and cabinetmakers, 8 blacksmiths, 4 millers and 4 clergy. There were also 9 physicians.

As opportunities for more suitable farm lands opened up in the mid-west and larger, more efficient mills grew in the larger urban centers of New Hampshire and Maine, residents began to migrate from Sandwich. This out-migration continued until the middle of the 20th century, when the town's population reached low point of 620 in 1960 (*US Census*).

Primary Historic Areas—*Provide Sandwich's Historic Character*

The Town of Sandwich is fortunate to have numerous historic assets, including the designation of two areas as National Register Historic Districts, so designated by the National Trust for Historic Preservation. These are Center Sandwich and Lower Corner.

National Register Historic Districts

Center Sandwich

This area was listed on the National Register in 1986 based on its well preserved 19th century New England Village and a high concentration of architecturally important 19th and early 20th century buildings. The village grew up at a major crossroad near the Red Hill River where the first grist mill and first sawmill were located. The major spur to the Center's growth was the completion of Sandwich Notch Road, which provided one of the few passable gaps in the White Mountains, allowing trade to the Seacoast. The current major roads in the village were constructed by the 19th century, including Main, Skinner, Grove, and Maple.

Today this district includes seventy-three (73) properties, including four (4) empty lots. Fifty-five of the sixty-five major buildings in the National Register District were erected before the Civil War. Only four buildings have been added since 1900. Unfortunately, many of the buildings cannot be dated with great precision. In addition, many of the Greek Revival structures that dominated Center Sandwich from the 1860's were lost to fire and destruction by the 1930's. See figure 4-1.

Figure 4-1. Historic Center Sandwich



The major historic buildings within this district include the Town Hall, Library, Post Office, Methodist Episcopal Church, the Baptist Church (the two now collectively constituting the Federated Church which holds services in both churches), the Red Mountain Masons Lodge, the Sandwich Historical Society, the Mount Israel Grange and Sandwich Home Industries.

The Sandwich Town Hall had been previously listed on the National Register as a single building. The Hansen's Annex Building (dates to 1839) had begun separate nomination papers, but then became incorporated in the Center Sandwich nomination. It is one of the remaining structures that retain Greek revival detailing.

In 1934 there was a major fire that destroyed seven historic buildings in the Center, mostly Greek revival buildings. The Sandwich House burned at an earlier date. The White house that used to be in front of the Quimby Barn was arson related. After the 1934 fire, there was a town wide survey conducted by the Quimby Trust to find out what the townspeople wanted. As a result, on lands controlled by the trust, the following were constructed: Quimby Field, Center Sandwich green, Home Industries, and several fire ponds. The trust also acquired a building that was converted into the Quimby School.

Lower Corner

This area was listed on the National Register in 1986. It is a small, attractive village located southeast of Center Sandwich that sits on Wentworth Hill, allowing views to the White Mountains, Ossipee Mountains and Red Hill. The village contains fine examples of 18th and 19th century buildings. It is also home to the original settlement in Sandwich by the Daniel Beede family. The village grew up primarily on what is Route 109 today and incorporates intersections with School House Road and Little Pond Road.

The Lower Corner National Register Historic District contains twelve properties which contain 32 buildings -- 12 major and 20 outbuildings. Of the 12 major buildings, nine were originally residences and the others included a saw mill, store and printing office. Today, the saw mill is used for storage, the former brick store is now a home with a craft studio and the rest are all residences.

The village is generally similar in its architectural style. With the exception of the original store building which has a brick exterior, all other building are wood construction, most of them with clapboard exterior construction. The major buildings all date from the 19th century and are also are similar in height (2 ½ stories). They represent the vernacular architecture of the 19th century and the Greek revival style.

Sandwich Notch

Although this road and surrounding historic landscape is currently incorporated into the White Mountain National Forest, in 1973 this area was nominated to be listed on the National Register of Historic Places. Although it was not officially listed, its historical significance is still very important to the Town of Sandwich. There are still remnants of early settlements, especially near Beede Hill Road and the Beebe River, as well as abandoned cellar holes, grown-over fields, and small family cemetery plots. The road maintains much of its initial engineering qualities, including layout, grading and log-and-plank bridges with fieldstone abutments.

National Register Individual Sites

Other significant historic resources that have been included on the National Register of Historic Places include the North Sandwich Meeting House (1986), the Bradbury Jewell House (1986) and the Durgin Bridge (1983)

North Sandwich Meeting House

The North Sandwich Meeting House, located on Quaker Whiteface Road, was built around 1881 as a gabled roof meeting house with clapboard walls set on a granite foundation. This building replaced the original structure that had been built in 1814. Most of the building is occupied by a large, tall auditorium, with a balcony overlooking the auditorium. This meeting house represents a late stage in the evolution of Quaker meetinghouses, since it no longer employed a separate entry for each sex. The single entry and undivided auditorium was clearly designed for an integrated congregation. The building is also a good example of the "plain style" of Quaker architecture, with limited ornamentation such as the entablature over the entry. This meetinghouse is now the only well preserved Quaker meetinghouse in Carroll County.

Bradbury Jewell House

The Bradbury Jewell House, built in 1803 by Bradbury Jewell, is located on Ferncroft Road in the Wonalancet section of Sandwich. It is a central chimney cape set on a cut granite foundation that is clad in clapboards, except for a lower course of shingles on the front façade and two sides. There is a 1 ½ story gable-roofed wing on its east gable end. This cape is characterized by a large brick chimney that rises from the center of the main gable roof. Also on the property is a tall, gable-roofed barn that was built in 1806. Jewell lived in the house all his life, and it was owned by his descendents until 1909. After this the house became an annex to the Ferncroft Inn and subsequently fell into disrepair until the 1960's when the new owners renovated the home. The interior was largely restored to its' original appearance. Today, this home represents a good example of an historic cape, notable for its good proportions, symmetry, and well preserved interiors.

Durgin Bridge

This bridge is the fourth to span the Cold River since 1820. The current bridge dates to 1870. The bridge is named for James Holman Durgin (1815-73) who ran a grist mill nearby and drove a stage from Sandwich to Farmington. The bridge was a link in the underground slave railroad, Sandwich to Conway. It is also the site of the town's only state sponsored historic marker.

NH State Historic Register Sites

There are no designated state Historic Register sites in Sandwich

Other Significant Historic Resources

Cemeteries

A major historic resource within the Town of Sandwich is its cemeteries. Based on the 1995 publication *Sandwich, New Hampshire, 1763-1995*, there are 85 cemeteries. Some of these may have been a single headstone, but more likely they were a family grave site on the small farms scattered throughout the community. By the late 1800's, there were more formal cemeteries that were under the auspices of churches or associations or the Town of Sandwich itself. Much of the cataloging of cemeteries was done by Robert Burrows in 1975-76. He produced maps of cemetery locations and a history of the burial grounds. This process is described in the Sandwich 1976 Excursion Booklet. The first burial ground is in Lower Corner on Wentworth Hill, on the property first owned by one of the town's original inhabitants—the Beede family.

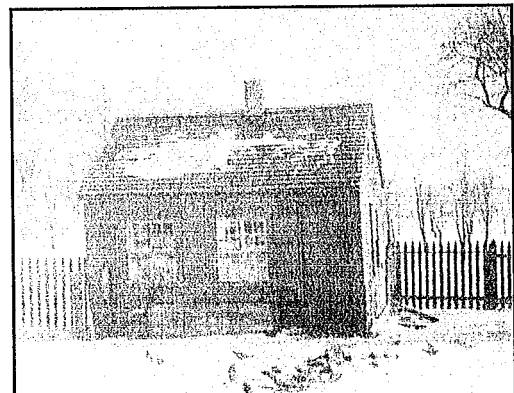
The town is directly responsible for three cemeteries: Grove Street, Elm Hill and North Sandwich. Separate private associations are responsible for five other cemeteries—the Rural Cemetery (Baptist Church), Vittum Hill, Little's Pond and two Quaker Cemeteries. The remainder are private burial grounds, approximately 60-70 of which have been abandoned. It has been reported that there is at least one Indian burial ground within Sandwich, although its location is not in the public records of the town.

The town has established the Sandwich Cemetery Trustees, in accordance with NH RSA: 289 and 290, who are responsible for the maintenance and upkeep of the town cemeteries and the abandoned private cemeteries. The Trustees are also responsible for managing and controlling the burial process for any Sandwich resident who may wish to be buried in a town cemetery. In addition to funds from the town's general fund there are a number of individual trusts that provided the necessary funds for maintenance.

Schools

The first school districts were established in 1794 and the first school was Elm Hill, as shown in Figure 4-2. Built about 1800, there is no record of when it was closed. The first schools in Lower Corner were Potash, later called Little Pond in 1808, and the John Quincy Adams School built in 1825. One of the first schools in Center Sandwich was the Center School,

Figure 4-2 Elm Hill School



built in 1806. The first schoolhouse in North Sandwich was built in 1810, and by 1847 there were 25 schools, all single rooms with one teacher. All of these schools have closed, and today there is just one school -- the Sandwich Central School in Center Sandwich on Squam Lake Road which serves as an elementary school with grades K –6. Built by the town in 1950, it was operated by the Sandwich School District as a grades 1-8 school until 1963 when it was merged into the Inter-Lakes School District. The auditorium/gymnasium and cafeteria were added in 1990.

While many of the original buildings have been lost, a number still remain. Almost all of the early schools were very crude and rustic. Most of the buildings standing today are the second and third building on the property, replacing the smaller, cruder buildings.

These include:

- Little Pond School—Originally built in 1806, the present building was constructed in 1825-26. Closed in 1890, this structure has been relocated to a site where it is situated between a house and barn, acting as a family room.
- Whiteface School—Built in approximately 1810, the present building was built in 1845. Closed in 1943, this structure now serves as a vacation home.
- North Sandwich School—The present building was built in 1856, although the original was constructed in 1810. It was closed in 1950, and since then it has had several owners and now acts as an art gallery.
- Center School—Originally built in 1806, the current structure was built in 1855 and closed in 1950. This building is part of the Sandwich Children’s Center, which added a major addition in 1999.
- Harmony School—Built in 1807, and after 1860-70 was turned into a residence.
- Chicks Corner School— Originally built in about 1806. The current building was built 1839 and closed in 1944. It is now a studio to go with the Thompkins house across the dirt road.
- Vittum Hill School—The original building was constructed in 1822. The current building was constructed in 1889 and closed in 1925. It is now a home.
- Great Rock School—Original building constructed in 1807. Current one built 1916 and closed 1920. In 1948 this structure was moved a half mile down the road and made into a garage.
- Thompson School—Built about 1831 and closed around 1910-20. It was moved to the Taylor home and became a blacksmith shop. Later the property was sold to the Speers family, who renovated it and it became the site of summer hymn sings.
- John Quincy Adams School—Now known as Lower Corner School, it was built in 1825 and closed in 1950. This original structure is the only one to have been built at that site. Currently owned by the Sandwich Historical Society and maintained as a historical school and open to visitors in the summer. The local 4th & 5th grades spend a day here every other year to reenact a day in the 1800s.

It is the only remaining school building that has not been converted to another use.

(Much of this section taken from *Exposed, Unbanked, Weatherbeaten, Knowledge Box: the Schools of Sandwich, New Hampshire 1802-1950*, Compiled by Joan Cook, Sandwich Historical Society, 2004 Also from personal communication with Joan Cook)

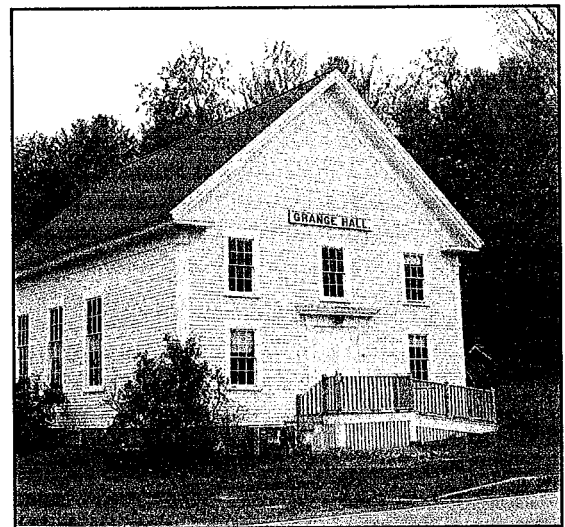
Churches

The history of Sandwich was closely tied to the formation of religious groups and the construction of church buildings or meeting houses. At one time or other there were eight churches, all of which were located in one of the three primary villages—Center Sandwich, North Sandwich and Lower Corner. There were also three churches in the Whiteface section of Sandwich.

The first church was built in the Center in 1793 by Free Will Baptists. Although renovated and reconstructed over the past 200 hundred years, this wood frame structure with a steeple and belfry still stands on Church Street. It has been incorporated into the Center Sandwich National Register Historic District.

A second meetinghouse was built in the Center by Quakers on the land owned by the Hoag's and was used until 1862 when it was burned to the ground during the Draft Riots when there was resentment of the Quakers. The foundation still remains at the back of the Hoag garage. Shortly afterward a third Quaker Meeting House was built in the Center and sold to the Grange in 1890. The Grange Hall, shown in Figure 4-3, is currently owned by the Sandwich Historical Society. At one point, during the middle of the 19th century, there were approximately 700 Quakers or almost 1/3 of the town's population. A fourth Quaker Meeting House was constructed in 1881 North Sandwich on the Quaker Whiteface Road. This structure still stands today, and is listed singly in the National Register of Historic Places. (Joan Cook, *Personal Communication*, 9-14-10)

Figure 4-3. Grange Hall



The Methodist Meeting House that still stands in Center Sandwich on Main Street was originally constructed in 1825 on Skinner Street and later moved to its present location. This wood frame structure with steeple has also been renovated several times during its history.

There were three churches in the Whiteface section of town. The White Church on corner of 113A and Wing Road was built 1825 by Freewill Baptists. The Brick Church built in 1832 by the Congregational Society of North Sandwich was dismantled in 1940. The foundation still exists. The Messiah Church built 1898-99 also known as the Baptist Evangelical was used only a few years, then fell into disrepair. It burned the night of July 4th 1940. (*Joan Cook, Personal Communication, 10-14-10*)

Local Efforts for Protection of Historic Resources

Sandwich Historical Society

The Sandwich Historical Society was established in 1917 to preserve “some of the early local furnishings, equipment for home and farm, records, and so forth, which were of historical interest to the town, things we were troubled to see being neglected, destroyed, or taken away from Sandwich.” Today, “the mission of the Sandwich Historical Society is to collect and preserve the material culture and historical record of the town of Sandwich, and to use these resources in service to the public through educational experiences and outreach to the community”. The Society has been active in preserving property, objects and vehicles, documents, photographs, and other ephemera, which represent the history of Sandwich. The Society’s signature event is the annual excursion to celebrate a particular aspect of Sandwich history, and the annual excursion bulletins document the people, places and times of Sandwich.

Although the Society does not actively search out properties to preserve their historical character, the Society has been fortunate to be gifted properties to be used to further the Society’s mission.

Elisha Marston House In 1927 the Society acquired the Emma Gilman property, formerly the Elisha Marston house, built circa 1850. In 1936, the Society opened the attached barn for an exhibit of collections of tools, herbs, and weaving. In 1941 Herbert Warner constructed a replica of a small country store in the converted woodshed. In 1972 an addition was constructed onto the museum. It opened in 1973 with a large exhibit room downstairs and room for meeting and a library upstairs.

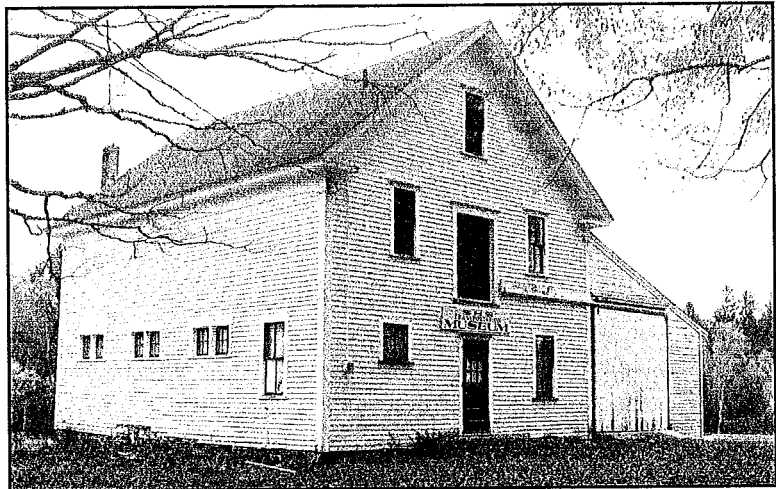
Lower Corner School House. This school was created in 1825 as the John Quincy Adams School. After serving as a private summer home for many years, the Sandwich Historical Society obtained the building in March 1990. See School section above for further description.

Mt. Israel Grange No. 158. The Grange was organized on Dec. 22, 1890 and in 1891 the Grange voted to buy the Quaker Meeting House. The Grange Hall was remodeled in the early 1890’s by Hacker Hall of North Sandwich. A second floor was added with other improvements for its new use. By June 1994 the Grange sold the building to the Sandwich Historical Society for \$10. Since then a number of repairs have been undertaken including a new roof and rebuilt the

chimney in 1994. In 2008 the Society initiated a long-range plan to make the grange a place for programs and a home for the Jr. Historians. Grant money has been found to undertake a number of repairs.

Figure 4-4. Quimby Barn (Transportation Museum)

The Quimby Barn. The “Quimby” barn once belonged to Dr. Charles White in the nineteenth century and the site is referred to as part of the Dr. Charles White Homestead. The homestead was destroyed by fire on November 22, 1923. The barn (See Figure 4-4.) is the last remaining building on this historically significant site. In 1927, Ellen White (the doctor’s daughter) sold the land and barn to the Quimby Trustees for the Quimby School, which operated as



a high school between 1921 and 1963. When the school was closed, the structure and land were sold to the Sandwich Fair Association. The building is currently leased for \$1 per year by the Sandwich Historical Society from the Fair Association. The Quimby Barn became the home of the Transportation Museum in 1991.

Sandwich Coach. In 2006 the Board of Selectmen, the Sandwich Fair Association and the Sandwich Historical Society signed an agreement that the future maintenance, care and housing of the Concord Coach XVI would be a shared responsibility.

Forbes Building. The Forbes house was located on Main Street just north of the Red Hill River bridge. The building is an example of the Federalist style construction common in the historic district. In 2008, the Sandwich Fair Association bought the property from Keith Forbes and in the spring of 2009 the house was set to be demolished. At the request of the Sandwich HDC, the Sandwich Historical Society prepared a mitigation plan and budget to salvage the historical elements of the building. The Fair Association sold the historical elements to the Society for \$1. The historical elements of the Forbes building are currently in storage awaiting use.

The facilities owned or operated by the Society represent a key component of the history of Sandwich and also provide the infrastructure necessary for the Society to meet its mission. The future plans for the facilities of the Society are to make sure all buildings are well maintained and energy efficient, and to preserve the historic nature of the facilities and the collections while creating increased accessibility to the public. The Society believes in

setting an example by promoting the adaptive reuse of historic buildings while enhancing the historic quality of the village center.

Historic District Commission

The Sandwich Historic District Commission was established in 1983 to preserve the unusual concentration of structures and places of historic and architectural value within the locally defined Center Sandwich Historic District. In its guidelines the Commission states as its purpose to:

- Preserve the ambience of buildings and their setting in the Historic District
- Encourage the maintenance of such buildings
- Ensure that the exterior of existing and new buildings are in visual harmony and scale with the neighborhood, and
- Strengthen the local economy by conserving property values.

The Commission manages building activities within the district through a review process that requires an application for a Certificate of Appropriateness. If the applicant meets the Commission's guidelines, a certificate can be issued.

The strong presence of both the Sandwich Historical Society and the Historic District Commission is testimony to the town's support for the preservation and protection of the community's historical and cultural resources and landscapes.

Techniques for Protection of Historic and Cultural Resources

National Register of Historic Places

Structures, sites, and districts of important historical or architectural significance may be nominated to and listed on the National Register, a federal listing. Sandwich has already had a number of sites as well as districts listed through this process, as noted earlier. Such a listing provides protection to the property relating to federally approved or licensed actions. Any federal action, like constructing a federally aided highway near such a structure, would require an environmental impact assessment to determine if the listed property could be adversely impacted by the proposed Federal action. Listing on the National Register provides no protection against demolition or alteration by a private owner. Structures normally have to be at least 50 years old before being eligible for National Register status.

State Register of Historic Places

The New Hampshire State Register of Historic Places is one part of the state's efforts to recognize and encourage the identification and protection of historical, architectural, archeological and cultural resources. These irreplaceable resources may be buildings, districts, sites, landscapes, structures or objects that are meaningful in the history, architecture, archeology, engineering or traditions of New Hampshire residents and communities. The State Register is administered by the New Hampshire Division of Historical Resources (NHDHR), which is the state's Historic Preservation Office. Sandwich has not listed any sites through this program.

Neighborhood Heritage District

A neighborhood heritage district is an area within a community that is intended to focus on protecting the particular character of an area. It is usually intended for protection of historic heritage, but does not have to be. Such districts can be established through the zoning powers of a community. The chief objective is to protect *neighborhood* character and the shared features of buildings located there, rather than *details*, such as window sash, doors, and trim, pertaining to individual buildings. The term "character" implies the district will protect those significant features that define a property or setting. What those features might be are decided by the community. For more see: *Neighborhood Heritage Districts: A Handbook for New Hampshire Municipalities*, NH Division of Historic Resources, 2008.

Purpose

The potential purposes of a neighborhood heritage district are wide and varied and should be tailored to meet the goals of the community and the district in question. Typical purposes would include:

- to protect the distinctive characteristics of the district's setting, buildings, structures, landscape features, and public spaces in a manner that is supported by the Master Plan
- to encourage both traditional design and building forms
- to encourage contemporary design that enhances the district
- to retain traditional development patterns and allow for adaptive reuse of existing structures
- to retain a pedestrian-friendly, accessible environment
- to retain the diversity of uses that have traditionally existed in the district
- to serve as a buffer to a local historic district [or other zoning districts]

Designation as Certified Local Government (CLG)

The Certified Local Government (CLG) program is designed to provide an opportunity for local governments to become more directly involved in identifying, evaluating, protecting,

promoting and enhancing the educational and economic value of local properties of historic, architectural and archaeological significance. Created by the 1980 amendments to the National Historic Preservation Act, the CLG program requires that the Division of Historical Resources (DHR) designate at least 10 percent of its annual Historic Preservation Fund allocation from the Department of the Interior to local governments that have become Certified Local Governments. Sandwich has not been designated as a CLG.

Tax Incentives for Protection of Barns and Agricultural Buildings

NH RSA 79-D, creates a mechanism to encourage the preservation of historic New Hampshire barns and other agricultural buildings by authorizing municipalities to grant property tax relief to barn owners who (a) can demonstrate the public benefit of preserving their barns or other historic farm buildings, and (b) agree to maintain their structures throughout a minimum 10-year preservation easement. This voluntary program encourages barn owners to maintain and repair their buildings by granting them specific tax relief and assuring them that assessments will not be increased as a result of new repair work. The program provides a means to give new economic life to buildings which are architecturally or culturally important, but whose original economic function has ceased to exist. While requiring the historic preservation of the buildings' exteriors, the statute allows interiors to be retrofitted into retail, office, or other uses.

Undertaking this program could contribute to the historic landscape and economy of Sandwich by:

- making the Town more attractive to vacationers and tourists;
- creating employment opportunities for the local construction industry;
- providing opportunities for additional retail and office space, and
- reusing large, older structures for public benefit.

It is closely modeled after New Hampshire's open space discretionary easement program (RSA 79-C), which authorizes local governments to grant property tax relief to encourage the preservation of open land. The statewide guidelines include consideration of whether there is local interest and support for the structure's preservation, its historic and agricultural significance, and the degree to which tax relief will encourage its preservation.

The NH Preservation Alliance has established a program to assist landowners with maintenance of historic barn structures. The Historic Barn Assessment Grant Program was created by the NH Preservation Alliance, in conjunction with the Division of Historical Resources and the New Hampshire Historic Agricultural Structures Advisory Committee, to help barn owners assess the needs of their historic structures. The program offers competitive matching grants of \$250 or \$400 to hire a barn assessment consultant who determines what's required to stabilize, repair and reuse the structure.

Investment Tax Credits

An owner of income-producing property (not including an owner-occupied private residence) listed on the National Register may be eligible to apply for an investment tax credit of 20 percent of a certified rehabilitation project through the Federal Historic Preservation Tax Incentives program. The tax credit can provide a significant economic incentive for commercial developers to rehabilitate an historic property that otherwise would not get rehabilitated. The reason that this is important from an historic preservation standpoint is that the work must be done to federally approved standards. This program is administered through the State Historic Preservation Office.

Historic Districts by Local Governments

Another mechanism to provide protection for historic resources is the creation of a locally controlled historic district for areas with a distinctive historic and/or architectural character. Sandwich has adopted one such district—Center Sandwich. Under 674:45, "The preservation of structures and places of historic and architectural value is hereby declared to be a public purpose."

Historic districts include all the buildings within the district. They do not prevent the ordinary maintenance or repair of the buildings, nor do the districts prevent new construction within the district. Their purpose includes: "preserving (and reflecting) elements of...cultural, social, economic, political and architectural history, conserving property values, fostering civic beauty, strengthening the local economy and promoting the use of a historic district for the education, pleasure and welfare of the citizens of a municipality." (RSA 674:45 I-V).

Heritage Commissions

Under RSA 674:44 communities may establish heritage commissions that have similar powers and duties as conservation commissions. Unlike historic district commissions that have regulatory powers within specific areas of a community, the heritage commission advises and assists other local boards relative to the value of historical, cultural and archaeological resources throughout the community. Currently, if a project is located outside the boundaries of the current historic districts there is no official process to provide information regarding its impact on historical resources.

The commission may also accept and expend funds for the protection of heritage resources. This may be accomplished through a non-lapsing heritage fund similar to the conservation fund that may be established for conservation commissions. Sandwich has not designated such a commission.

Preservation Easements

Another method of providing protection for historic properties is to grant a preservation easement to insure the preservation of the character-defining features of a property for the public's benefit. The extent of the protection is dependent on the strength of the easement. Some easements protect just the façade of a building. Others protect the larger preservation values, including, but not limited to:

- the exterior and interior architectural features,
- materials,
- landscape features,
- outbuildings,
- fences, and
- archaeological resources of a property.

The easement is granted by the owner to either a governmental unit or a non-profit corporation in the historic preservation field. The New Hampshire Division of Historical Resources protects a variety of properties through preservation easements. Term easements (easements that expire after a predefined period of time) and perpetual easements (easements that never expire) have come through state and federal land transfers, mitigation through the review and compliance program, and substantial federal grants for building projects like the Save America's Treasures program.

Fee Simple Purchase/Gift

Either a governmental unit or a non-profit historic preservation organization might use this technique to purchase or receive a gift of a building for that entity to preserve and maintain for the public to view. Purchase of the Emma Gilman house and property by the Sandwich Historical Society is an example.

Preservation of Other Resources

Sandwich, because of its farming heritage, has an interesting array of natural vistas and landscape features that may be worthy of preservation. For example, there are surviving farmsteads, rolling fields, mature trees, stone walls and rural roads that all contribute to the historic and cultural character of the community. These features are not suitable for protection through historic districting techniques. In these circumstances other techniques might be suitable including:

Scenic Roads

Roads with attractive large trees and/or stone walls along the side may be designated as scenic roads under New Hampshire Statute RSA 235:157. Sandwich has already taken

advantage of this provision by designating almost all of its local roads as scenic. If a scenic road is designated by a Town Meeting vote, then no repair, maintenance, reconstruction or paving work may be done if it involves removal of certain size trees or demolition of stone walls unless the Planning Board has held a public hearing and has given its written consent. Additionally, the Planning Board, in its Subdivision and/or Site Plan Review procedures, may want to have a provision to modify its road standards if a designated scenic road is part of or adjacent to a proposed development. Such a provision would provide an opportunity to ensure that the standards of the subdivisions roads would be consistent with an existing scenic road. See also discussion of Scenic Roads in Transportation Chapter.

Scenic Easements

It is also possible for a landowner to grant an easement over his/her land in order to protect views, vistas or other features that are worthy of protection. When such easements are granted to a non-profit or governmental organization, if the fair market value of the property is reduced by these restrictions, then the owner may be eligible for a reduction in property taxes.

Assessment of Historic Landscapes

This technique for assessment of historic resources is used by the National Park Service to identify historic landscapes, not just buildings, structures or artifacts. It is based on the *General Guidelines for Identifying and Evaluating Historic Landscapes* prepared for the Federal Highway Administration by the Environmental Program of the Californian DOT

Such an assessment might provide Sandwich with the opportunity to integrate the natural and historic landscapes of the town as a basis for long-term management and protection. The definitions of the four original National Park Service landscape types can be useful in the process of identifying and analyzing a resource, although any such study could derive more locally relevant categories. While the specific historic landscape definitions may not directly apply to the town, they do provide a good starting point for such an assessment.

Historic vernacular landscapes have evolved through use. They have been shaped by human activities and reflect the physical circumstances and cultural character of daily lives. Examples include agricultural and mining areas.

Historic designed landscapes present a conscious work of creation. They were designed according to design principles or in a recognized style or tradition, and may be important in the field of landscape architecture. Examples include formal gardens, cemeteries, and parkway.

Ethnographic landscapes contain natural and cultural resources that people associated with these features define as heritage resources. Examples include contemporary settlements,

sacred sites, important topographic features, and can also include individual components, such as small plant communities or ceremonial grounds.

Historic sites are significant for association with a historic event, person, or activity, where the location itself possesses historic, cultural, or archeological value. They are usually small-scale, relatively simple landscapes, although substantial archeological resources or extensive areas where historic event occurred may cover larger areas. In addition to archeological sites, they include places associated with important events or individuals, such as a battlefield, birthplace, or ceremonial site.

Issues and Challenges

The Town of Sandwich is very cognizant of not only its history, but also the value of its remaining historic resources as part of its present day fabric. The fabric includes the interweaving of its historic, natural and scenic resources that is unique even among other New Hampshire communities. Through various recent surveys and community forums, it has been made clear that the community wishes to maintain and preserve the natural and historic heritage. This heritage includes numerous buildings, village areas, churches cemeteries, mill sites, scenic roads and National Register Historic sites.

While the community has done much to protect such resources such as through the designation of Center Sandwich as a local Historic District, there will be further challenges as the community grows and changes. Some of this can be done through such organizations as the Sandwich Historical Society, some can be accomplished through town programs and policies, while much can be done with through individual land owners who may own valuable historic buildings, structures or artifacts.

The key challenge will be to preserve the town's rural, historic and small town character while managing change and growth.

Action Plan

Vision Goals for Historic Resources

Protect Sandwich's historical resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.

Preserve the town's rural, small town character and the traditional New England style of its villages.

Objective HR 1: Protect and preserve Sandwich's physical and structural historic and cultural resources.

Actions

HR1.1: Consider establishing a Heritage Commission under the provisions of RSA 674:44 that can advise the Planning Board or other community boards relative to the value of the town's heritage (historical, archaeological, and cultural) resources.

HR1.2: Prepare a comprehensive historic resources inventory—both written and photographic—of all historic sites and buildings in the Town of Sandwich based upon information collected and published for the Heritage Walks (ref HR 3.1) and other relevant documents.

At present, Sandwich has a remarkable library and archive of its history and historical/cultural assets. Except for the documentation done for the National Register historic district and historic site designations, much of this information is contained in town histories or publications like the annual Sandwich Historic Society excursion booklets. It would be helpful to organize and update this information into a living document of resources that describes, locates and maps each of the town's historic assets, such as by historic homes, churches, schools, cemeteries and mill sites.

HR 1.3: As a complement to Action HR 1.2, consider conducting a comprehensive historic landscape survey of Sandwich, including its villages and rural landscapes, based on the guidance document *General Guidelines for Identifying and Evaluating Historic Landscapes*.

HR 1.4 Apply to become a Certified Local Government (CLG) through the NH Division of Historic Resources to allow Sandwich greater opportunity to identify, evaluate, and protect local properties of historic, architectural and archaeological significance.

Objective HR 2: Preserve and enhance the scenic and historic quality of Sandwich's rural landscape and roadways.

Actions

- HR 2.1: Manage the gateways into town, such as Squam Lakes Road, Skinner Street, Maple Street and Wentworth Hill Road, to protect their historic character and landscape quality; and also ensure that new development is consistent with this character.
- HR 2.2: Work with the New Hampshire Division of Historic Resources and the Department of Transportation to manage location of road signs to avoid interference with the view of historic resources from public roads, and, where appropriate, to place historical markers to heighten awareness of historic resources.

Objective HR 3: Maintain historic educational programs that enhance citizen awareness of Sandwich's unique history and the numerous surviving artifacts of its history and culture.

Actions

- HR 3.1: Establish permanent heritage walking trails in Center Sandwich and Lower Corner that would include a map and permanent interpretive markers for specific historic properties.

5. Village Centers

Overview—*Historically, Sandwich had Several Villages.*

Sandwich has at least four places that have been called villages at various times in the town's history.

- Center Sandwich
- North Sandwich
- Sandwich Lower Corner
- Whiteface

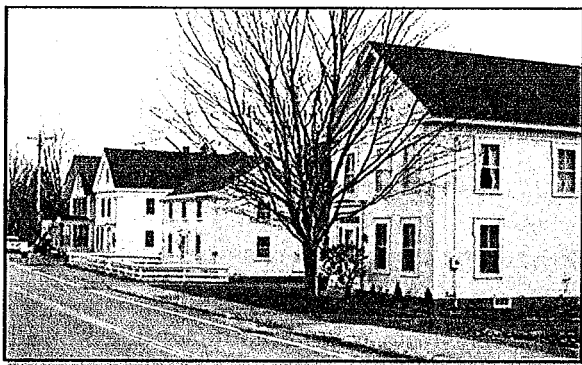
While all these locations may have been significant in the past, only two can now be considered viable centers. A viable village needs to have a concentration of buildings, contain a mix of land uses and most importantly serve as a focal point for the community. In that context, Center and North Sandwich fit those standards, although to differing degrees. North Sandwich has a concentration of buildings, a post office and a general store, but it is at a much smaller scale than Center Sandwich. Center Sandwich is generally regarded as the activity center of the entire community owing to its greater number and concentration of buildings and its mix of residential, retail, government and institutional uses. It is also located at the convergence of several primary roads that pass through Sandwich.

Defining Features of Village Centers

- ♦ Concentration of buildings that result in a walkable compact development form,
- ♦ A mix of residential, commercial, institutional & government land uses,
- ♦ It is recognized as a focal point of the entire community for social, economic, government, religion and other purposes.

Sandwich Places High Value on Center Sandwich Village

Villages are important to a community for two primary reasons: they provide the visual anchor for the entire community and they are centers of social and economic activity for the town. The



community survey undertaken as part of this Master Plan highlighted the strong support for the historic architecture in the village, the fact that it is well maintained and that its setting is enhanced by the surrounding open space and the views that it offers. It is this visual character that truly establishes the positive image of the community for everyone. The second major feature that distinguishes the village from the rest of the town is the fact that it is the center of people activity, with a

concentration of community facilities and land uses including the school, retail, post office,

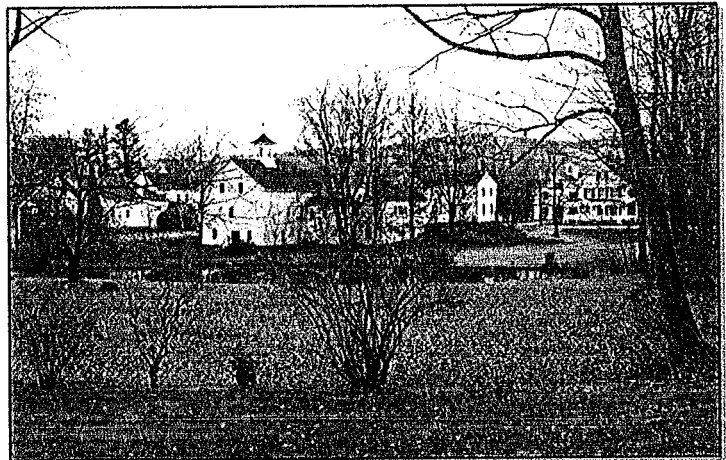
town offices, churches, the Benz Community Center and the library. People value their ability to gather and socialize when they come to the village. Another important asset to retaining small town character is that none of the roads running through the center of town is heavily traveled. Although it was not highlighted in the survey, North Sandwich also contributes to the positive image and social interaction of the community.

Community Attitudes — *We value our Cultural/Historical Identity and Mix of Social/Business Activities*

Many comments and ideas were received about Sandwich's villages in the three Master Plan forums held in 2008 and 2009, and through recent community surveys (both the citizen survey conducted for the Master Plan in 2009 and a Historic District survey conducted by Plymouth State University in 2008 for the Historic District Commission). In essence, Sandwich residents indicated they highly value the historic village setting and the cultural identity and sense of history that it provides. Center Sandwich also serves as an active town center where people reside, gather, interact and do business. The 2009 community survey provided feedback on a number of village center issues:

Business Activity

- The Forum highlighted that residents want to see the Historic District evolve so that it keeps pace with the town's needs and does not become a "museum."
- 81% want to have health practices in town (15% do not).
- 61% feel that more professional offices are desirable (32% do not).
- 72% want more business in Center Sandwich.
- 68% would favor more arts and crafts businesses (23% do not).
- Restaurants/café/coffee shops were desired by 63% (and not favored by 33%).
- 51% would like to see more tourism in town (41% would not).
- 54% do not want to see more gift shops (but 38% do).
- 77% do not want to see a shopping center (but 18% do).
- 84% do not favor motels in town (9% do).
- Conversely, 71% feel that bed and breakfasts or inns would be acceptable while 23% did not.



- 12% of the residents commented that they would like to see a general store re-established in Center Sandwich.

Historic & Visual character

- 80% would like to permit more modern building methods and materials while still preserving the overall appearance of the district.
- 41% of respondents were satisfied with the Historic District codes (but 29% were not).
- 47% do not favor creation of additional Historic Districts (29% do).
- 54% do not favor expansion of the Historic District (24% think it should be expanded).

Infrastructure

- About 60% of survey respondents felt that more sidewalks or parking were not needed.
- Regarding expansion of the sewer in Center Sandwich, 34% did not want to see it expanded but 32% think it should be.

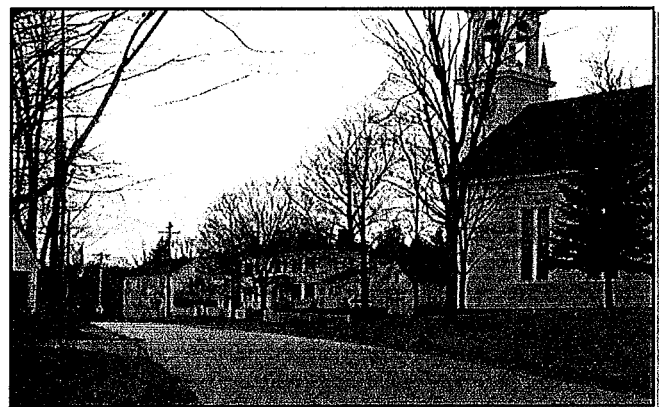
Development

- A number of comments were received indicating that there is either too much growth/development/change town (19%), or that no new development is needed in town and we should just maintain what we have (8%) Conversely, sentiments were also expressed indicating that slow, reasonable growth was acceptable (4%), as is limiting development to a reasonable pace (8%). Others expressed a desire to balance affordability, aesthetics and growth (4%).

Community Respects Historic Character—*Some Would Like to See Added Design Flexibility and Variety of Land Uses.*

The community survey and the Public Forum held in November of 2009 pointed to a number of common themes and some issues over which there are differing perspectives on the future of the villages.

1. While nearly everyone places high value on the existing Center Sandwich village's historical quality and aesthetics, comments were made about not allowing it to become a "museum." Other comments supported use of more modern building materials, solar



and wind energy systems and potentially more contemporary architecture that can retain the scale and tempo of the existing streetscape without impairing the existing historic character.

2. More retail could also affect the quality of life for existing residents (both positively and negatively).
3. People value the village as a center of activity and some would like to see more vitality, but are concerned about the impact of additional traffic. Most survey respondents did not feel there was a need or desire to provide more parking and sidewalks in the village.
4. Underlying all of these topics is the question of what to do with the existing town sewage treatment system. The system is currently at capacity and may need to be repaired or replaced in the not-too-distant future. If there is currently no reserve capacity, any additional development or new, more people-intensive use would be precluded.

Historic District Survey – *Overall, the survey indicated strong support for retaining the appearance of buildings in the Historic District and developing zoning regulations specific to the district.*

In 2008, the Historic District Commission worked closely with the Plymouth State University, Center for the Environment to develop and conduct a survey of opinions about the Historic District. The survey was sent to all the residents of the Historic District as well as an equal number of residents from elsewhere in town. Of the responses received, 41% indicated that they did not live in the Historic District and 59% said that they did. Survey results covered a number of issues similar to those that were explored in the 2009 community survey. Many of the questions asked were on a 1-5 scale, with 5 being a favorable response and 1 being unfavorable. Strong support (4.1) was given to the statement: “the existence of the Historic District is a benefit to the community.” Positive support was also given to the following statements:

- ♦ The Historic District impacts my property value in a positive manner (3.7)
- ♦ It is important that economic/commercial activity is concentrated in a specific space in the Historic District (3.2)
- ♦ I am concerned about the possible impacts of the development of accessory dwelling units (3.1)
- ♦ The Historic District Commission should allow the development of multiple dwelling units on a property when the project adheres to the appearance standards of the Historic District (3.1)

Several questions related to the supply and appearance of parking in the Historic District. Existing parking was seen as adequate, but there was support for adequate parking being made

available for businesses, even though there was nearly equal concern for the appearance of that parking. There also appeared to be less support for additional street lighting and implementing measures to lower traffic speeds in the Historic District.

81% of the survey respondents were neutral about the current distribution of economic/commercial activity in the district. An equal percentage (9.6%) felt it was either not concentrated enough or too concentrated.

More than 80% of the survey responses indicated either neutral or positive support for Historic District Commission activities overall.

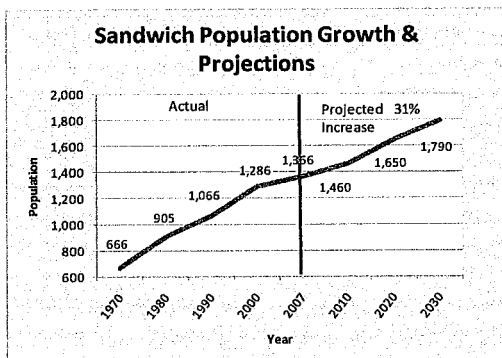
Another question asked how important a number of issues were for the Historic District Commission to address. This question was also on a 1-5 scoring structure, with the following results:

- ♦ Working to preserve open space within the Historic District (4.2)
- ♦ Conserving old and mature, historic trees (3.9)
- ♦ Working with land owners to establish conservation easements within the district. (3.8)
- ♦ Working with the Zoning Board more collaboratively on zoning code amendments (3.6)
- ♦ Placing utility lines underground (3.5)
- ♦ Working to establish specific zoning regulations for the Historic District (3.5)
- ♦ Offering aid to property owners trying to find funds to prevent demolition (3.2)
- ♦ Making sure that HDC codes are followed on all sides of homes, not just the "street side" (3.1)
- ♦ Establishing more sidewalks to ensure pedestrian friendly routes (3.1)
- ♦ Developing policies for temporary signs (3.0)
- ♦ Creating more parks and/or recreation areas within the Historic District (2.7)

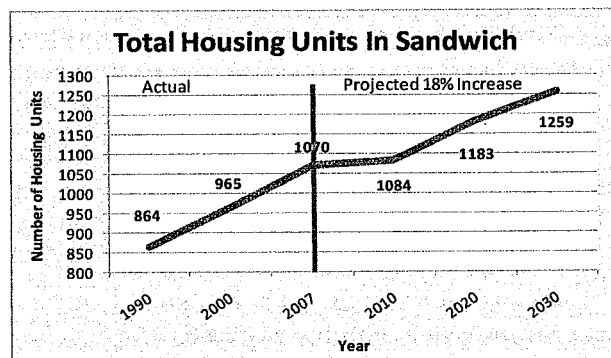
A question was also asked about whether the Historic District boundaries should be kept where they are (200 feet on both sides of the street centerlines) or expanded to include the entirety of the properties in the district. Two similar questions were asked on this issue, with 55-58% favoring expansion of the district to include the entirety of the properties in the district.

Planning for Incremental Growth

While there were differences of opinion on the vision for the future of Sandwich's villages (and particularly Center Sandwich), all indications are that the town will continue to experience modest population growth. With that growth will come more houses and automobiles. More people and more houses may generate an increased desire for more convenient services closer to where people live, but, realistically, there still may not be a sufficiently large population to attract and sustain such businesses.



Source: NHOEP



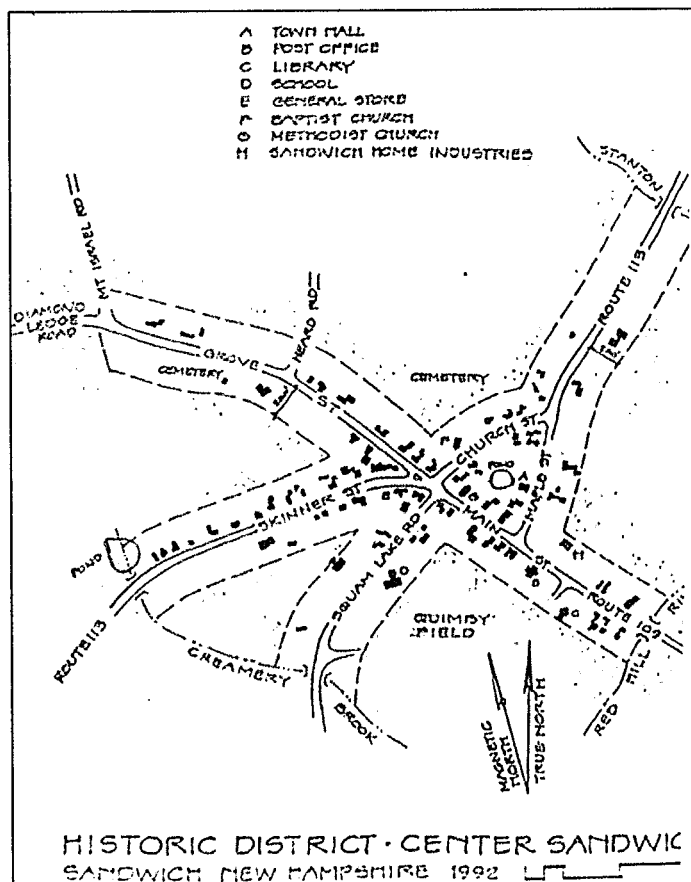
If the population projections produced by the state Office of Energy and Planning do materialize, and the town does grow to nearly 1,800 people - a 31% increase over the next twenty years, where will those new homes, businesses and services be located? In order for Sandwich to achieve its most highly valued asset—the *preservation of its natural resources and rural character*—and preserve the architectural and historic quality of its villages, thoughtful and strategic planning will be necessary. The preservation of rural character is being addressed in the Natural Resources chapter of this plan. But how does the town keep the small town, traditional New England architectural quality of its villages and still allow modest growth to meet increasing population needs?

Current Regulations

Most of the Town of Sandwich is zoned Rural/Residential, which defines the permitted land uses and dimensional requirements for the entire community. There are a number of other zoning classifications that add additional restrictions and standards in those districts. One of these is the Historic District, which encompasses only the core of Center Sandwich village.

Historic District Boundaries

The Historic District boundaries are set at 200 ft. from the centerline of the streets in the district (see map at right) and bounded by Red Hill River, Stanton Brook, Creamery Brook and Mt. Israel Road. Everything beyond the



200 ft. boundary is zoned Rural Residential. Center Sandwich village has the only local Historic District in town.

Land Use Regulation—Permitted Uses

The Rural/Residential District lists the following as permitted uses:

- Single-family unit, cluster single-unit, residential multiple-unit, mobile homes and manufactured housing dwellings.
- Rural/residential accessory structures such as private garages, accessory dwellings, enclosures or partial enclosures for the housing or storage of farm equipment, pets, livestock, merchandise, property or firewood.
- Home occupations, professional practices, business offices (such as, but not limited to, real estate offices and insurance agencies), located on the premises and employing not more than the equivalent of four full-time employees (excluding the residents), provided such use is secondary to the use of the premises for dwelling purposes, provided that:
 - (a) The premises can provide parking for employees and customers;
 - (b) The business does not generate excess trips, traffic or deliveries; and
 - (c) The business does not materially harm or affect the residential or rural quality of the area.
- Day care within the home of a child-care provider; up to six full-time preschool children and three part-time school-age children.
- Agriculture uses, including all recognized forms of farming, truck gardening, silviculture, livestock raising, tree, shrub, plant or flower nurseries and roadside stands for the sale of produce grown primarily on the premises.
- Recreational uses consistent with the preservation of open spaces and natural resources, and which do not materially harm or affect the residential or rural quality of the area.
- Gravel pits complying with the Sandwich Excavation Regulations.
- Churches, parks, playgrounds, public and private schools, non-home-based child day care, respite center, and municipal buildings. Commercial cable TV reception equipment for Town franchised cable television systems, including necessary tower(s), antenna, associated reception equipment, transmission lines and building(s)."

The Historic District allows the following uses:

- All uses permitted in the Rural/Residential District except mobile homes, manufactured housing, commercial cable TV tower(s)/antenna(e) and gravel pits.
- The uses permitted in a Historic District will be such as to preserve and safeguard the historic heritage of the Town of Sandwich. Primary consideration shall be given to those buildings and features that reflect elements of the Town's cultural, social, economic, political and architectural history. Similar consideration shall be given to the conservation of property values, the fostering of civic beauty, strengthening of the local economy (including the establishment of retail businesses, professional offices, craft shops, and the like) and to the promotion of the district for the education, pleasure and welfare of the community. It shall be the function of the Town's Historic District Commission to develop a policy for the achievement of the district's purposes in accordance with applicable state laws and through the authority vested by the Town of Sandwich.

Uses that require a special exception from the Zoning Board of Adjustment in the Rural/Residential District are:

Auto service and repair shops, sawmills, inns, retail stores, restaurants, business and professional offices and studios. Common carrier wireless exchange access services are only permitted in the Rural/Residential District pursuant to issuance of a special exception and site plan review approval.

Special Exception uses in the Historic District are:

Inns, retail stores, restaurants, professional offices, studios and banks. The Board of Adjustment shall hear and decide special exceptions within all districts. Within the Historic District, however, the Historic District Commission shall have the power to accept, review and act upon all applications for building permits within its boundaries. Such power of review and approval or disapproval shall be limited to those considerations which affect the relationship of the applicant's proposal to its surroundings, to the location and arrangement of structures, to the architectural treatment of the exterior features and finish of structures, and the

compatibility of land uses within the districts as they may be deemed to affect the character and integrity of said districts to achieve the purposes of the Historic District. In carrying out the foregoing duties, and in its relations with other Town authorities, the Historic District Commission shall act in consonance with the provisions of RSA 674:45 through 674:50.

Observations on Land Use Regulations

There are a number of uses defined in the Rural/Residential District that may not be appropriate to permit in areas of the town where very small lot sizes exist, such as are found in both Center and North Sandwich. The exclusion of "mobile homes, manufactured housing, commercial cable TV tower(s)/antenna(e) and gravel pits" from the historic district would not prevent them from being established in or near the village, just outside of the historic district. Likewise, the public comments summarized earlier in this chapter indicate that there is an interest in allowing additional retail, office and service business activity in Center Sandwich village. In order to accommodate any such changes and preserve the historic qualities of the villages, the town should carefully examine a distinct set of permitted uses for the villages of Center and North Sandwich.

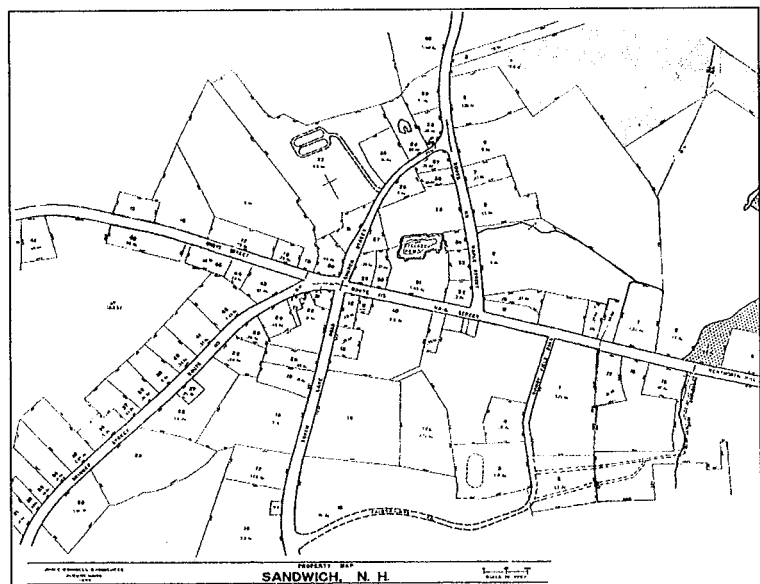
Current Dimensional Standards in the Rural/Residential and Historic Districts

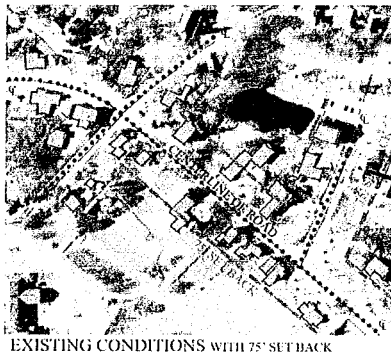
- Minimum lot size: 100,000 square feet (175,000 sq. ft. for multifamily).
- Minimum lot frontage: 160 ft. (for multi-unit structures – as determined by the Planning Board).
- 32 ft. maximum building height (height above natural ground to highest point).
- Building setbacks: 75 ft. from centerline of street; 50 ft. side and rear.
- Septic systems: 25 ft. from lot lines; 125 ft. from lakes, ponds, streams.
- Wells: 75 ft. from septic systems & property lines.

Observations on Dimensional Standards:

The present dimensional requirements would not allow the construction of most of the buildings that exist today in either Center Sandwich or North Sandwich villages. Likewise, most of the lots are considerably smaller than the 2.3 acre minimum required by the current ordinance (note the large number of small parcels on the Center Sandwich Property Map). Buildings in the existing villages are generally 19th and early 20th century structures that were constructed fairly close to the road,

Center Sandwich Property Map





many within 10-20 feet of the edge of the roadway. The illustration to the left shows the location of the current 75 foot setback. In order to adequately plan for incremental growth that is forecasted to occur, yet preserve the visual character of the villages, the town should consider amending dimensional standards so that new buildings or building additions maintain the present ambiance and character that people value.

Architectural Design Standards

The current Historic District design guidelines seek to maintain and replicate the architectural qualities that are represented in the district. The guidelines reference the building scale, basic shapes and window sizes and proportions that are found in the existing buildings. These design guidelines only address buildings within the Historic District, and do not provide any design guidance for possible new structures that might be built in the village, in the Rural/Residential District that directly abuts the Historic District.

Issues and Challenges

Sandwich places a high value on its villages. Participants in the 2009 community survey expressed strong support for the historic architecture in the village, the fact that it is well maintained and that its setting is enhanced by the surrounding open space and the views that it offers. The challenge for Sandwich will be to maintain this village character as the town evolves. To address this challenge, there are several issues that need to be considered.

Permitted Uses

The town's base zoning, the Rural/Residential District (that incorporates the current village areas), allows a variety of uses, many of which may not be reasonable in areas where there are very small lot sizes, such as Center and North Sandwich. At present, such uses as Inns, retail stores, restaurants, professional offices, studios and banks are allowed only by special exception within the Historic District. Based on the 2009 community survey, many residents supported the desire to have a mix of uses in Center Sandwich. The town may wish to re-evaluate the current zoning provisions to allow such uses by right in these village areas.

District Boundaries

The Historic District overlay, created in 1982, is currently being used as a de facto village center zoning classification, but it does not address the broader needs of the town to allow incremental compact development in and around the existing town center. At present, the village center is

within the Rural-Residential district. The zoning requirements for this district do not reflect the dimensional characteristics currently found in the village center. In addition, they do not provide the detailed regulatory guidance, such as dimensional standards, needed to retain the historic compact character of the village. Nor do these requirements enable appropriate incremental growth and a mix of residential, retail and office uses just beyond the present Historic District boundaries. Further, if new development or changes were to be proposed immediately adjacent to the Historic District boundaries, how would that affect the views from the village to the countryside and the overall “feel” of the village?

New zoning classifications, which could eventually bear different names but will be referred to here as the “Center Sandwich District” and the “North Sandwich District,” could define a larger area of similar uses within the town center and/or North Sandwich. They could serve to “buffer” the existing villages against encroaching development that would have a significantly different appearance and “feel.” This would not affect the boundaries of the existing Historic District. Such new zoning districts could, for example, establish appropriate lot sizes, building setbacks, use standards and modest design controls that are in keeping with the vision for the village centers, consistent with this Master Plan. Perhaps a good point of departure would be to seek a broad consensus on how best to ensure that, over the next 20 or more years, any growth or change in use, either in or near the current villages, does not diminish the present character and appearance that citizens so highly value. Establishing these new zoning classifications could allow for incremental additional growth of the villages, while ensuring that new or changed structures are in harmony with the scale and architectural character of the present villages; in the case of the Center Sandwich District the point of reference would likely be the Historic District.

Design Standards

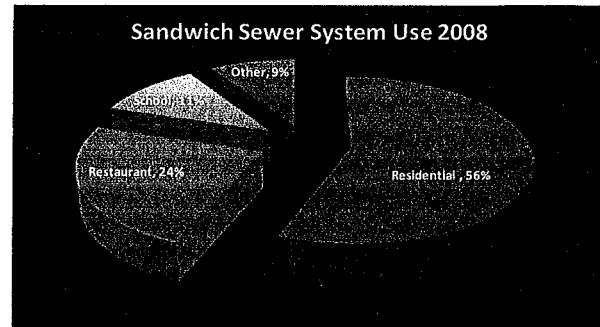
Since Sandwich created the Historic District and adopted the present design standards, design control guidelines generally have continued to evolve. While it may be appropriate to maintain the current design controls on historic buildings, the town should consider somewhat more flexible standards that would apply to new buildings or building additions, particularly in the suggested Center Sandwich District and North Sandwich District. New buildings would need to retain the same basic form and scale as adjacent historic buildings, but they would not be required to replicate every design detail. A recent publication entitled “Neighborhood Heritage Districts – A Handbook for New Hampshire Municipalities” suggests that preserving neighborhood character may place a greater emphasis on “*the shared features of buildings located there, rather than details, such as window sash, doors, and trim, pertaining to individual buildings.*”¹ Greater design flexibility may also be desirable to permit introduction of modern building materials and new technologies (e.g. solar power).

¹ Elizabeth Durfee Hengen, *Neighborhood Heritage Districts – A Handbook for New Hampshire Municipalities* (Concord, NH: NH Division of Historical Resources, 2008)

Infrastructure

Center Sandwich has an established sewer service area that makes it possible for the village to maintain its present compact development pattern. Anticipated future growth and possible changes of use in the mix of residential and non-residential properties in Center Sandwich village will cause incremental demand for sewage capacity. Given current capacity limitations, a detailed engineering study of the sewer system needs to be undertaken and decisions made about whether it could be upgraded or expanded.

In 2008, residential activity accounted for 56% of the total system use, which was at 98% of the system's capacity. In 2009 that figure had dropped to approximately 86%, due primarily to the closing of the general store. There is a known problem of groundwater infiltration – in most years it has exceeded the total inflow from system users –severely limiting the capacity available for users. The ongoing maintenance and operation of the system is paid for by the 74 system users. Small changes in the intensity of land use activity, even within existing buildings, could push the sewer system beyond its ability to meet the town's needs.



Other features that can contribute to village character are sidewalks, street trees and parking. Two out of three people who responded to the 2009 survey did not feel a need for either more sidewalks or parking in the village center. The 2008 Historic District Commission survey provided a different perspective. Those survey respondents felt that current parking was adequate to meet existing needs, but it was felt that adequate parking should be provided for businesses, and that the design of new parking would have to be treated carefully to fit in with the village center.

Residents appear to be satisfied with the current status of sidewalks and parking in the village, but there is a nearly even split, with many "don't knows", when it comes to sewer system expansion. Because, as discussed above, the sewer system is running at capacity, the Town needs to begin looking into alternatives for its long term future.

Action Plan

Vision Goal for Village Centers

Preserve the town's rural, small town character and the traditional New England style of its villages.

Objective VC.1: Maintain the ambiance and character of the existing village centers – Center Sandwich and North Sandwich.

Actions

VC1.1: Maintain a mix of residential, commercial and civic service properties and uses in the Historic District that is consistent with natural and historic resource preservation and respects the wishes of both the neighborhood and wider community.

VC 1.2: Review current zoning regulations to determine whether the villages should continue to be subject, in the main, to the same requirements as the Rural/Residential District.

VC 1.3: Explore creating a Center Sandwich District and North Sandwich District with boundaries that would encompass the existing villages and include some space for incremental new growth around both.

The intent of establishing these districts would be to develop potentially unique zoning requirements to ensure that growth or change in or around the villages over the next 20 year or longer period preserves the character and appearance of today's villages that residents value. The existing Historic District boundaries would not be affected.

To initiate this effort, one or more design workshops or charrettes should be conducted to explore in detail how the Town would like to see the villages grow and evolve over time, leading to development of a long range plan.

VC 1.4: Identify key open spaces and vistas that need to be protected and consider acquisition, easements or other alternatives to permanently protect these visual resources.

VC 1.5: Encourage a program of town beautification including but not limited to planting and preservation of trees, shrubs and flowers.

Objective VC.2: Review design standards for the Historic District and, if created, adopt design standards for the portion of the Center Sandwich District outside of the Historic District and North Sandwich District that are consistent with the traditional New England village.

Actions

VC 2.1: Retain the current design guidelines for buildings in the Historic District, incorporating sustainability and energy efficiency initiatives wherever they do not detract from the visual harmony of the District.

VC 2.2: If zoning districts are created for North and Center Sandwich, develop design standards for additions, renovations and new construction outside the Historic District, that are compatible with existing historic building shapes, scale and character.

VC 2.3: Provide additional tools, including demolition review, for the HDC to preserve architectural features, including buildings and open spaces, in the Historic District.

Objective VC 3: Provide infrastructure to support future needs within the villages.

Actions

VC 3.1: Provide appropriate opportunities for safe pedestrian and bicycle circulation within the village, including, if created, the Center Sandwich and North Sandwich Districts.

Where possible, do so without increasing paved surfaces, favoring permeable and green alternatives that reduce storm water runoff.

VC 3.2: Develop a long range plan for parking in the villages, including, if created, the Center Sandwich and North Sandwich Districts -- one that minimizes visual impacts and emphasizes sharing existing resources to avoid paving new areas.

6. Economic Base

To understand the economic conditions of Sandwich, it is necessary to determine if its characteristics are in line with both how the community currently sees itself and how it expects to change in the future. Because of the town's small size, it relies on a number of surrounding communities for many of its jobs and services. The 1981 Master Plan summarized the town's economic situation as follows:

Sandwich's economic base is closely tied to the regional economy. Because the local population is relatively small, the town cannot support the same level of commercial outlets, banks and service firms as Center Harbor, Moultonborough, Meredith and Laconia: Sandwich residents have effectively traded the convenience of residing closer to commercial centers for the rural atmosphere and remote location of the town. (1981 Master Plan, p.8-1)

Summary of Findings

- Sandwich's economics can be characterized by having a small number of small businesses that provide relatively stable employment as compared to the region and state.
- The town has had a steady rate of employment growth in the past decade even taking into consideration the 2008-2009 economic recession.
- Of the 44 businesses identified by state and federal data sources, 57% have fewer than five employees and 93% have fewer than twenty employees.
- More than half of the occupations of town residents are found in construction, education, health care, social services, arts, entertainment, accommodations and food services.
- Over 80% of the people who live in town work in town and nearby communities.
- 26% of workers in town are self-employed, an unusually high number compared to other communities in New Hampshire. .
- More than 88% of the assessed value of the town is in single family homes.
- Only 30% of the property in town is assessed as "developed" leaving 70% that is undeveloped.
- In 2008, Sandwich had one of the lowest tax rates in the state – the town was 21st from the lowest of the 234 communities in the state.

This chapter will examine current economic conditions, recent trends in the town's employment, property valuation and taxation.

Employment - *Even with the 2008/09, economic recession total employment in Sandwich has risen by 45% since 1998.*

Since 1992 there has been an overall increase in total employment in Sandwich from 173 to a 2008 total of 251. As Figure 6-1 shows, there was a steady increase in the average private sector employment in Sandwich from 1992 to 2004, rising to a total employment of 251. By 2008, that figure had dropped by 19% to 203. As of 2008, the most recent data available from the NH Department of Employment Security (NHES), total private employment was at 203 with average weekly wages of \$547.89. Public sector employment has also fluctuated over this same time period, rising to a high of 55 employees in 2006. The 2008 NHES figures showed a similar public sector downturn to 49 employees with average weekly wages of \$612.85.

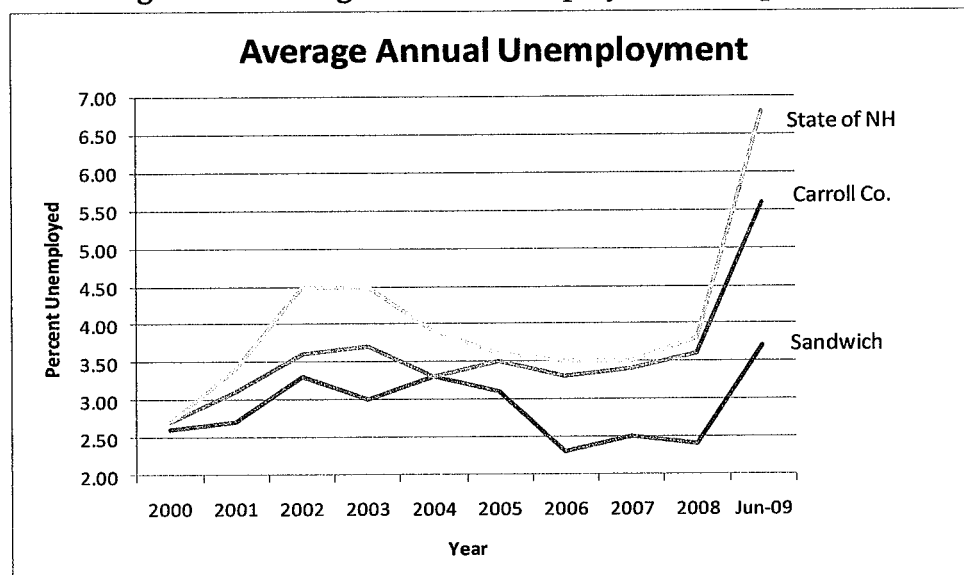
Figure 6-2 shows recent trends in the unemployment rate for Sandwich, Carroll County and the State. The drop in employment highlighted in figure 6-1 shows up in the rising unemployment numbers in figure 6-2 since 2006, with particular increases since 2008 that reflect the condition of the entire U.S. economy. While Sandwich unemployment rates have remained consistently below both the county and state figures, the changes in unemployment rates for the three jurisdictions consistently follow each other.

Figure 6-1: Average Annual Covered Employment in Sandwich

	1992	1994	1996	1998	2000	2002	2004	2006	2008
Number Private Businesses	34	41	51	47	49	41	47	45	48
Average Employment	141	157	207	223	241	232	251	200	203
Average Weekly Wage	\$352	\$400	\$474	\$545	\$543	\$626	\$606	\$557	548.
Number Public Entities	3	4	4	4	4	4	4	4	4
Number Public Employees	32	50	44	43	46	46	50	55	49
Average Weekly Wage	\$319	\$373	\$434	\$459	\$410	\$477	\$479	\$504	\$613
Total Employment	173	207	251	266	287	278	301	255	252

Source: NH Employment Security

Figure 6-2: Average Annual Unemployment Comparisons



Source: NH Employment Security

Periodically the NH Department of Employment Security completes projections of employment for each of the regions in the state. The most recent one was completed in 2006 with projections to 2016. For the Lakes Regional Planning Commission area (which includes Sandwich), they are anticipating an overall growth in employment of 12.4%. Figure 6-3 shows the projections of employment by NAICS industrial classification code.

Figure 6-3: Long Term Employment Projections for the Lakes Region

Long-Term Employment Projections, 2006 - 2016 Lakes Region Planning Commission Area						
NAICS Code		2006 No. of Businesses	Employment		Change 2006-2016	
			2006	2016	Numeric	Percent
	Total Employment (incl. Self-employed)	3664	47,783	53,712	5,929	12.4%
101	Goods Producing Industries	732	8,922	8,928	6	0.1%
11	Agriculture, Forestry, Fishing and Hunting	22	129	132	3	2.3%
21	Mining	7	101	109	8	7.9%
23	Construction	607	2,828	3,263	425	15.0%
31-33	Manufacturing	197	5,864	5,434	-430	-7.3%
102	Service Providing Industries	2617	35,323	40,706	5,383	15.2%
22	Utilities	19	227	229	2	0.9%
42	Wholesale Trade	161	834	969	136	16.2%
44-46	Retail Trade	564	7,371	7,766	395	5.4%
48-49	Transportation and Warehousing	68	880	949	69	7.8%
51	Information	46	424	399	-25	-5.9%
52	Finance and Insurance	129	1,029	1,092	63	6.1%
53	Real Estate and Rental and Leasing	124	612	574	62	12.1%
54	Professional, Scientific, and Technical Services	262	1,099	1,266	167	15.2%
55	Management of Companies and Enterprises	19	481	564	73	15.2%
56	Administrative and Waste Management Services	184	1,426	1,790	364	25.5%
61	Educational Services	37	4,731	5,591	860	18.2%
62	Health Care and Social Assistance	263	5,299	6,720	1,421	26.8%
71	Arts, Entertainment, and Recreation	109	1,084	1,422	338	31.2%
72	Accommodation and Food Services	367	4,999	5,883	884	17.7%
81	Other Services (Except Government)	302	1,474	1,704	230	15.6%
	Government	215	3,463	3,798	345	10.0%
	Self-employed and Unpaid Family Workers		3,638	4,078	540	15.3%

Source: NH Employment Security

With just over 200 private sector employees, Sandwich comprises only 4/10ths of 1% of the region's employment. Economic changes affect the entire region, so it is reasonable to expect that employment in Sandwich will increase at a rate similar to that of the region, or about 12% by the year 2016. The fluctuations experienced in Sandwich since 1992 have been considerably more volatile than that however. Between 1992 and 2004 employment in town grew by 78% and then fell by 25% in just two years between 2004 and 2006. See Figure 6-1. This volatility can best be explained by the small number of businesses in town. The addition or loss of only a few businesses can have a dramatic effect on total employment numbers. For this reason we can speculate that employment gains between now and 2016 could be as low as 12% or potentially as high as 40%.

The above discussion relates specifically to employment that is "covered" by the NH Employment Security requirements. The most notable omission to covered employment is self employed individuals. Based on 2000 U.S. Census data 55.8% of the labor force in Sandwich (336 people) are employed; 26.2% are self-employed (158 people); and 17.5% work for either local, state or federal government. By comparison, the percentage of self-employed people represents only 7.6% of the state's total labor force.

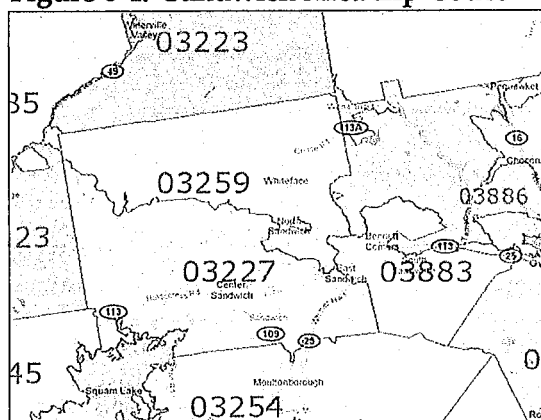
Types of Business in Sandwich - *Sandwich is dominated by employers having fewer than five employees. Construction related businesses are the single largest category of business in the town.*

The availability of detailed information on the nature of businesses in Sandwich is very limited due to data confidentiality standards of both the U. S. Census and the NH Department of Employment Security. The most detailed industry classifications are available by postal zip codes and Sandwich is actually divided into four zip codes:

	Zip Code
Center Sandwich	03227
North Sandwich	03259
Tamworth	03886
South Tamworth	03883

The best approximation that we can make for the entire community is to add the zip code economic data for Center and North Sandwich. As can be seen from the zip code map, this still leaves out a portion of North Sandwich Village and the very eastern edge of the Sandwich corporate limits that are included in the Tamworth and South Tamworth zip code areas.

Figure 6-4: Sandwich Area Zip Codes



Source: Google maps

Figure 6-5 displays the number of businesses by industrial classification between 1998 and 2006. It is particularly instructive to review the change in numbers of businesses by type between 1998 and 2006 since they suggest trends in businesses and employment for the town.

The industry categories that lost businesses include:

- Forestry, fishing, hunting and agriculture (loss of 1)
- Manufacturing (loss of 2)
- Professional, scientific and technical services (loss of 3)
- Management Companies (loss of 1)
- Health care and social assistance (loss of 2)
- Arts, entertainment and recreation (loss of 1)

Industry categories that gained in the number of businesses (highlighted in yellow in Figure 6-5) were:

- Construction
- Wholesale trade
- Retail trade
- Transportation and warehousing
- Information
- Administration, support, waste management and remediation services

Comparing the data presented in Figure 6-5 to the projected regional increases shown in Figure 6-3, most of the service-providing industries (NAICS Industry Codes 42-81) are expected to see healthy gains by 2016.

Figure 6-5 also points to a strong trend in Sandwich toward smaller businesses. Of the 44 businesses classified in 2006, the Census bureau found that 25 of them had 1-4 employees, twelve had 5-9 employees, four had 10-19 employees and only three businesses had more than 20 employees.

Figure 6-5:
Number of Businesses by Industry Classification – Center & North Sandwich Zip Codes

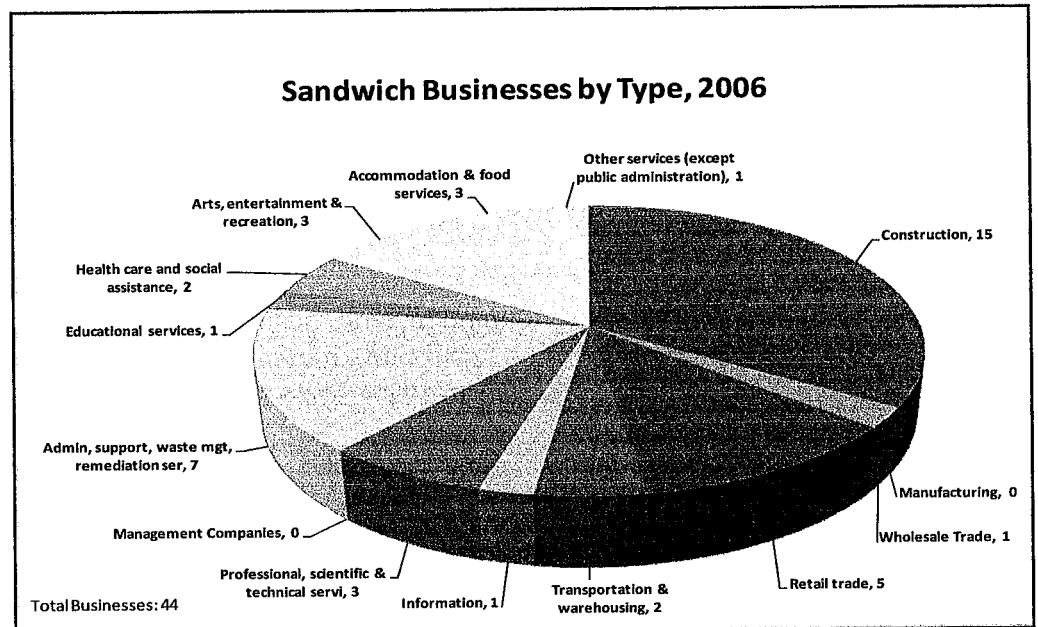
Private Sector Employers and Employment																			
		1998					2006					Change 1998-2006							
Industry Code	Industry Code Description	Number of Employees					Number of Employees					Number of Employees							
		Total # Businesses	1-4	5-9	10-19	20-49	Total # Businesses	1-4	5-9	10-19	20-49	50-99	Total # Businesses	1-4	5-9	10-19	20-49	50-99	
	Total	44	36	4	1	3	44	25	12	4	2	1		-11	8	3	-1	1	
11	Forestry, fishing, hunting, and agriculture	1	1										-1	-1					
23	Construction	14	11	2		1	15	5	7	3			1	-6	5	3	-1		
31	Manufacturing	2	1		1								-2	-1		-1			
42	Wholesale Trade						1			1			1			1			
44	Retail trade	4	4				5	3	2				1	-1	2				
48	Transportation & warehousing	1				1	2	1			1		1	1					
51	Information						1	1					1	1					
54	Professional, scientific & technical services	6	5	1			3	2	1				-3	-3					
55	Management Companies	1	1										-1	-1					
56	Admin, support, waste mgt, remediation services	1	1				7	6	1				6	5	1				
61	Educational services	1	1				1	1											
62	Health care and social assistance	4	3	1			2		1			1	-2	-3				1	
71	Arts, entertainment & recreation	4	4				3	3					-1	-1					
72	Accommodation & food services	3	2			1	3	2			1								
81	Other services (except public administration)	1	1				1	1											
99	Unclassified establishments	1	1										-1	-1					
		Total Employees				223	Total Employees				200	Total Employees				-23			
Source: US Census Zip Code Employment																			

Source: US Census Zip Code Employment

The 2006 distribution of businesses are then shown in Figure 6-6 as a percentage of the total number of businesses documented by the U.S. Census bureau. 34% (or 15 businesses) of the companies covered were in the construction industry, 16% (7 businesses)

administration/support
t/waste management
or remediation
services, 11% (5
businesses) retail
trade, and three
classification
categories each
accounted for 7% (3
businesses each) of
the
employers in town
(professional,
scientific & technical
services; arts,
entertainment &
recreation; and
accommodation &
food services).

Figure 6-6: Sandwich Businesses by Type, 2006



Source: US Source: US Census, Zip Code Data

Type of Work done by Sandwich Residents - Construction and education/health/social services lead the list of occupations held by Sandwich residents. There are also a much higher percentage of households with retirement income in Sandwich than elsewhere in the region or state.

The previous section described what types of businesses are located in Sandwich. This section describes the industry categories where Sandwich residents work. In 2000 the US Census indicated that there were a total of 1,047 people 16 years of age and older and that 611 were people in the labor force, nine of whom were not employed. The remaining 436 people were not in the labor force. The two largest employment categories (both at 19.4%) were "construction" and "education, health and social services." A little over 10% of the workforce was identified as working in the "arts, entertainment, recreation accommodation and food services" sector. The other categories are displayed in Figure 6-7.

Figure 6-7: Industrial Classifications of Sandwich Workers Over 16 years of Age

INDUSTRY	Number	Percent
Agriculture, forestry, fishing and hunting, and mining	25	4.2
Construction	117	19.4
Manufacturing	35	5.8
Wholesale trade	13	2.2
Retail trade	43	7.1
Transportation and warehousing, and utilities	30	5.0
Information	12	2.0
Finance, insurance, real estate, and rental and leasing	42	7.0
Professional, scientific, management, administrative, and waste management services	48	8.0
Educational, health and social services	117	19.4
Arts, entertainment, recreation, accommodation and food services	62	10.3
Other services (except public administration)	33	5.5
Public administration	25	4.2
Total	602	100

Source: 2000 US Census

As discussed in the chapter on demographics Sandwich has a higher than average number of retired persons who receive either social security income, retirement income or both. A total of 39.4% of the households in town receive social security income as compared to 32.6% for Carroll County and 24.7% for the state. Likewise, 25.7% of Sandwich households received retirement income compared to 20.3% for the county and only 16.4% for the entire state. The figures for Sandwich are significant because, although retirement and social security income is not technically employment, the higher percentages of people in town who receive these types of income are an important component of the town's economic picture and contribute to the economic vitality of the community.

Commuting Patterns - *Nearly 7% of Sandwich workers walked to work and a very high percentage of workers work at home.*

Figure 6-8 displays how Sandwich, county and state residents traveled to work in 2000. Even though Sandwich is not served by public transportation residents actually used their cars less for commuting than the average county or state resident. The explanation for this apparent contradiction is that Sandwich workers walked to work and more than double the percentage of workers in town worked from their homes as compared to the county or state. Even with a more rural population, Sandwich residents who did commute only traveled a little further to work, on average, than county and state workers.

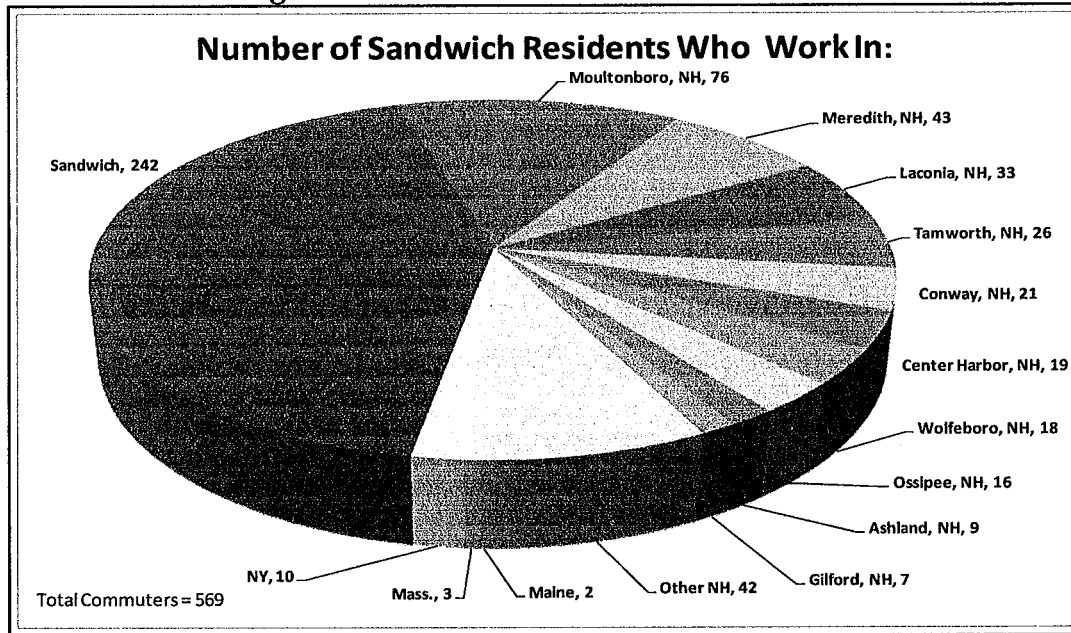
Figure 6-8: Commute to Work

	Drove	Public Transit	Walked	Other	Work at Home	Avg Travel Time (Min)
Sandwich	79.70%	0.00%	6.90%	1.80%	11.60%	27.0
Carroll County	89.50%	0.30%	3.30%	1.30%	5.70%	26.0
State of NH	91.60%	0.70%	2.90%	0.80%	4.00%	25.3

Source: 2000 US Census

Over 42% of the residents of Sandwich who are in the labor force work in Sandwich. More than 30% of Sandwich workers commute to Moultonborough, Meredith, Laconia and Tamworth. As Figure 6-9 shows, the remainder of the town's residents travel throughout the region for work—some even traveling as far as Massachusetts and New York.

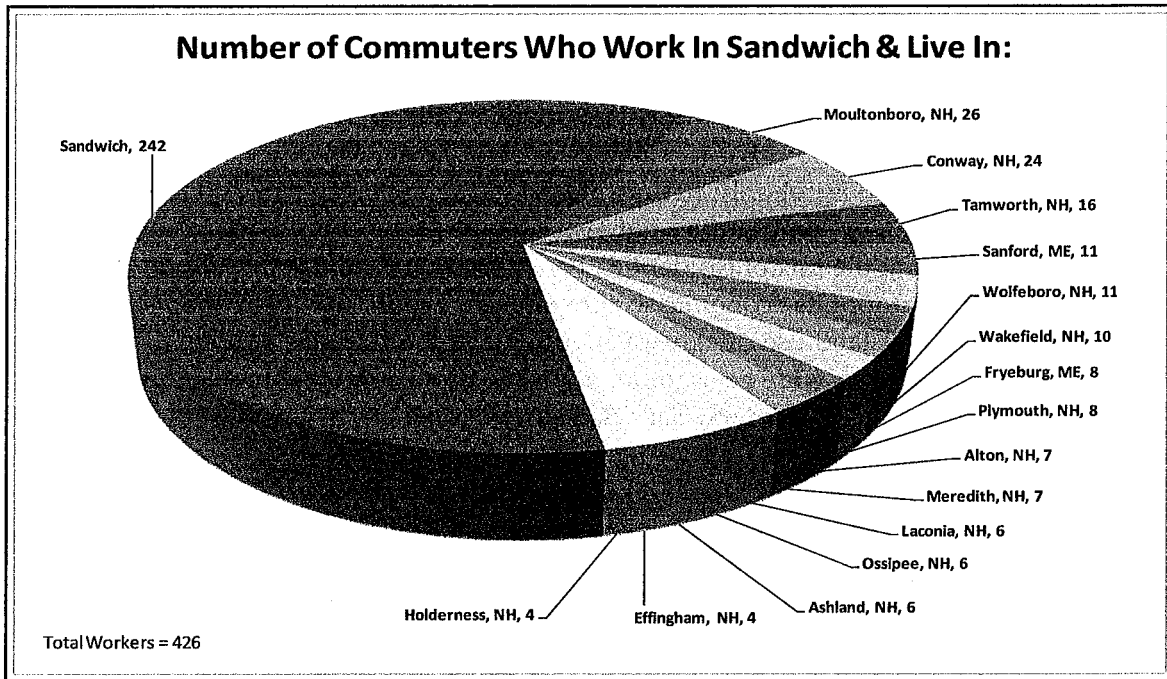
Figure 6-9: Where Sandwich Residents Work



Source: 2000 US Census

Of the 426 people who were reported as having worked in Sandwich in 2000, 57% were town residents. Not surprisingly, nearly all of the remainder of Sandwich employees traveled to work from residences throughout the greater lakes region, and beyond. See Figure 6-10 for the complete distribution.

Figure 6-10: Where Workers in Sandwich Live



Source: 2000 US Census

Assessed Valuation

Eighty-eight percent of the town's total valuation comes from single family homes

A town's assessed valuation is not only an indicator of its land use patterns and relative prosperity compared to other communities but also a gauge of the zoning regulatory choices that it has made regarding the mix of residential, commercial and industrial property in the town. It is also an indicator of its economic sector strength. Figure 6-11 provides a breakdown of the major town assessor land use categories and how many acres are classified as developed and undeveloped. On a town-wide basis, more than 70% of the total town area is assessed as undeveloped with slightly less than 30% classified as developed.

The single largest category of undeveloped land is "exempt-other" which comprises almost 19,000 acres of land and consists almost exclusively of property within the White Mountain National Forest. The next largest percentage of undeveloped land is property that is classified as residential at slightly more than 18% of the total town area. The third largest category of undeveloped land is managed and unmanaged forest with 10.5% and 7.1% of the total town land area – respectively.

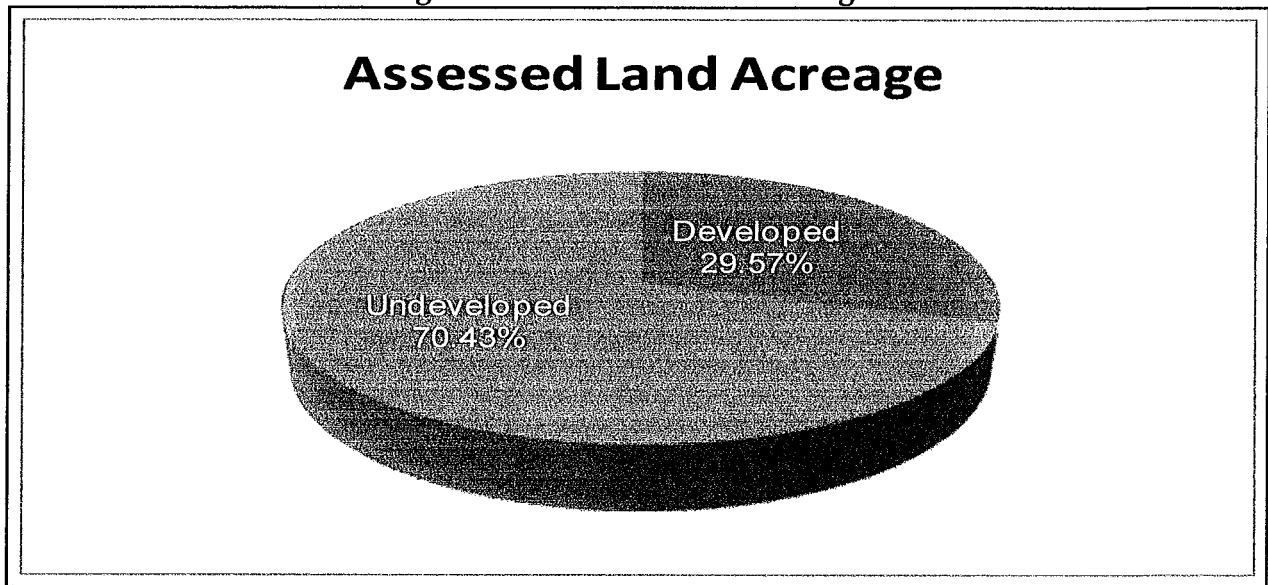
Of the total town land area classified as developed, over 98.3% is single family residential and single-family water front residential (Figure 6-12). Other assessed land that is listed as developed includes commercial (0.05%); two-family residential (0.13%) and three-family residential (0.04%). The only other developed land categories shown on the Town assessor records are for exempt properties which account for 1.49% of the developed land area of Sandwich. Figures 6-12, 13 & 14 graphically display these assessor database breakdowns.

Figure 6-11: Town Assessor Land Use Designations by Percent and Acreage

Description		Acres		Percent	
		Developed	Undeveloped	Developed	Undeveloped
Commercial	Commercial	8.1	14.8	0.01%	0.03%
Current Use	Farmland		94.4	0.00%	0.17%
	Managed Forestry		5,974.6	0.00%	10.56%
	Unmanaged Forestry		4,044.3	0.00%	7.15%
Exempt	Exempt-Municipal	91.5	267.7	0.16%	0.47%
	Exempt-Other	157.7	18,992.0	0.28%	33.56%
Residential	Single Family	15,766.8	10,211.7	27.86%	18.04%
	Single Family Waterfront	679.3	258.6	1.20%	0.46%
	2 Family	21.6	2.0	0.04%	0.00%
	3 Family	6.7		0.01%	0.00%
	Utility	0.0	0.0	0.00%	0.00%
Total		16,731.7	39,860.0	29.57%	70.43%

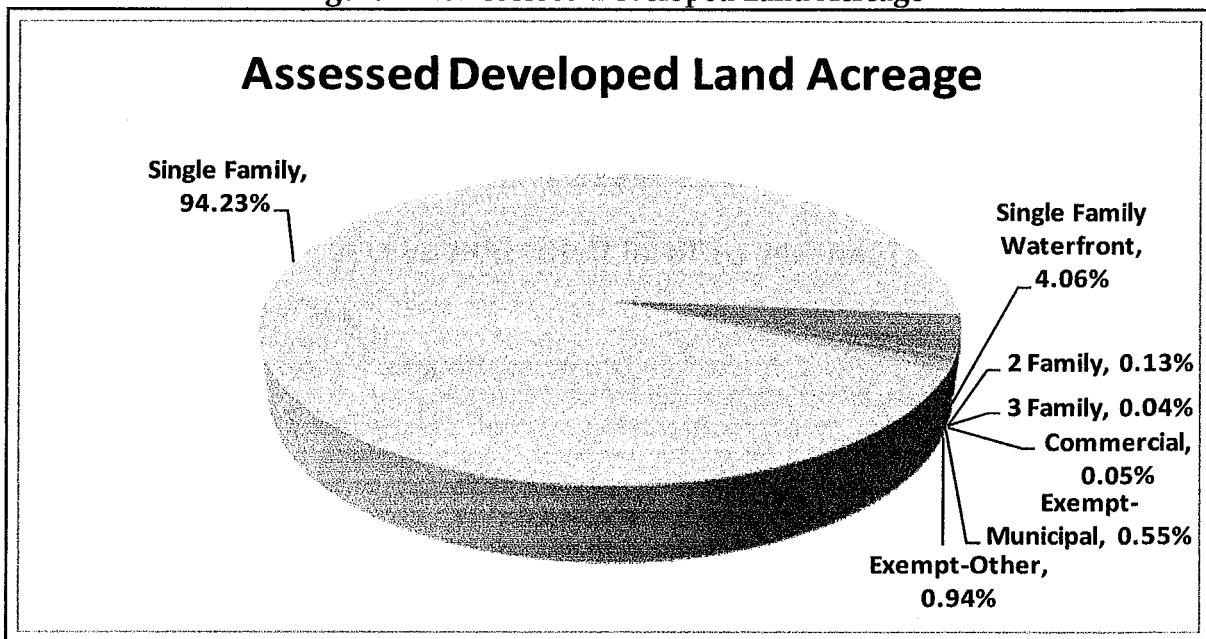
Data Source: Sandwich Assessor

Figure 6-12: Assessed Land Acreage



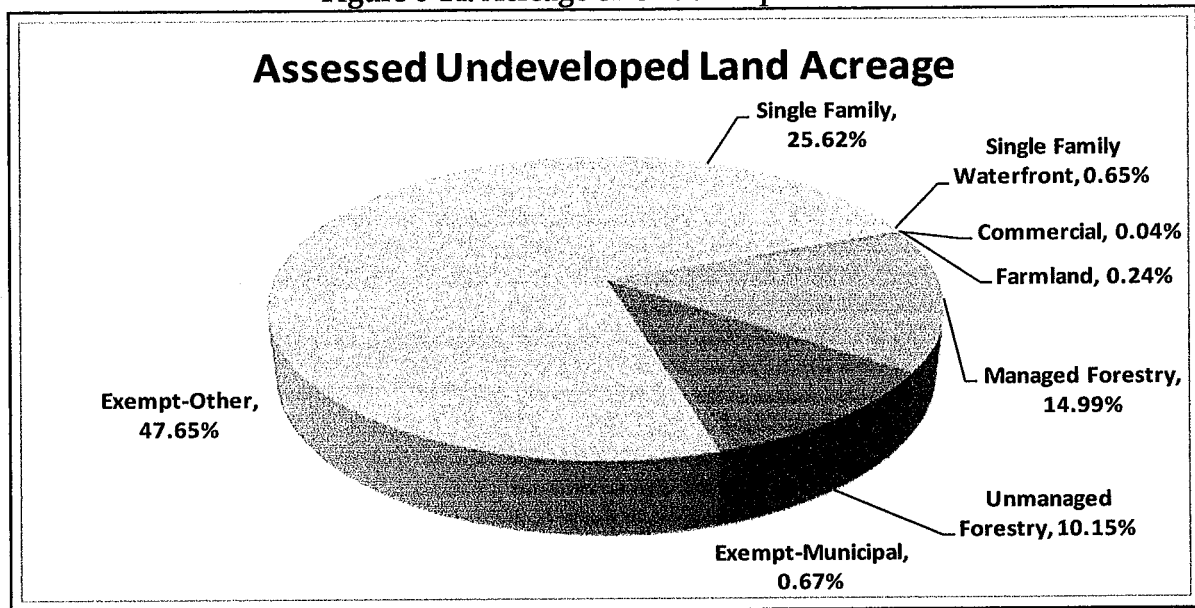
Data Source: Sandwich Assessor Records

Figure 6-13: Assessed Developed Land Acreage



Data Source: Sandwich Assessor Records

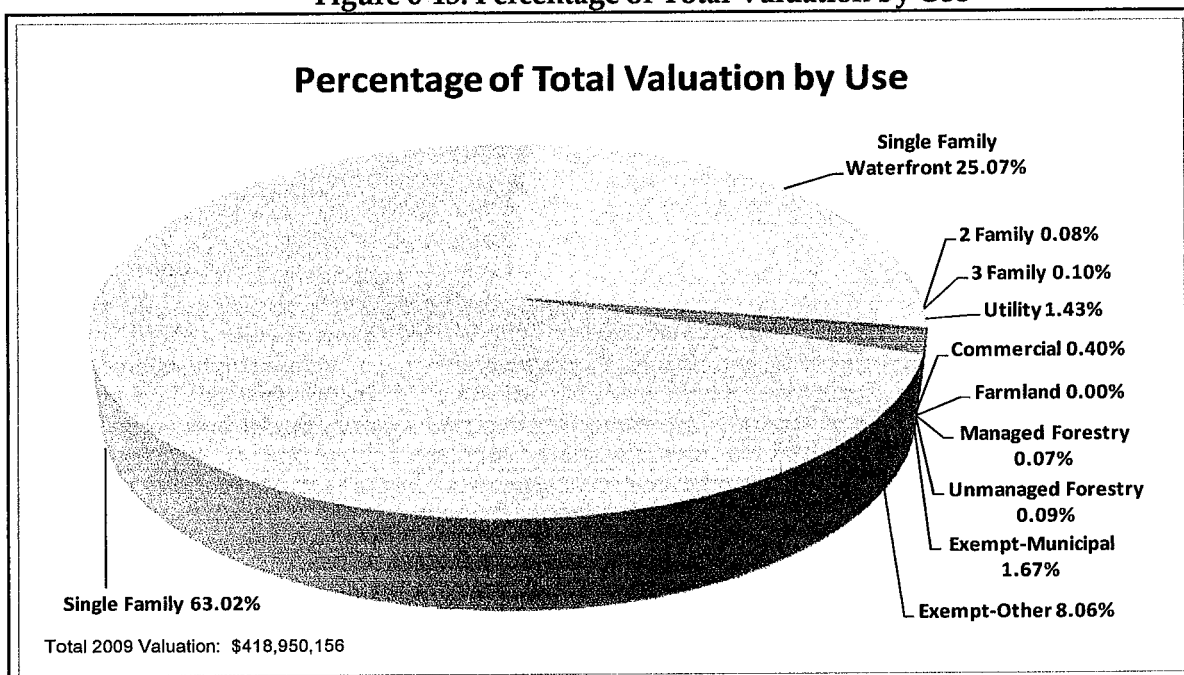
Figure 6-14: Acreage of Undeveloped Land



Data Source: Sandwich Assessor Records

Taking a look at the value of all the assessed property in town (Figure 6-15), it is clear that non-waterfront single family residential property carries the lion's share of the town tax burden – with 63% of the total valuation in Sandwich. Single family residential waterfront property adds another 25% to the total value in town. Commercial property accounts for only 0.4% and utilities only 1.43% of the assessed valuation. The WMNF captures 8% of the assessed value in town.

Figure 6-15: Percentage of Total Valuation by Use



Data Source: Sandwich Assessor Records

Local Taxes

Sandwich has one of the lowest tax rates in the state coupled with a correspondingly high property valuation

The tax rate of one community, compared to that of others in the region, can influence the marketability of property in a town. Consistently low taxes may positively influence the value of homes or businesses in a community, especially if nearby towns have appreciably higher taxes. Even with the very heavy reliance of the town on residential property valuation, Sandwich has the 21st lowest tax rate of the 234 towns and cities in New Hampshire. Figure 6-16 shows the Sandwich tax rate in comparison to other communities of similar population. Looking at the town tax burden on a per capita basis, Sandwich's ranking is not nearly as favorable – ranking much closer to the top of the range at 185 out of 234 communities in the state. Figure 6-16 also highlights the fact that Sandwich has one of the highest per capita property valuations in the state – ranking 207 out of 234, which helps to explain the comparatively low tax rate.

As a point of interest, Figure 6-16 also includes the comparable figures for the smallest town in the state (Hart's location) and the largest city (Manchester). At 2 persons per square mile, Hart's location has a very low population density. Sandwich also has a very low population density – due primarily to the large amount of undeveloped land area – at 15 persons per square mile. Manchester has a population density of 3,290 persons per square mile.

Figure 6-16: Tax Rate of Towns with Similar Population to Sandwich

	OEP Population	OEP Pop. Density	2008 Actual	2008 Tax Rate Rank	2008 Gross Taxes Per Capita	2008 Per Capita Tax Rank	2008 Net Valuation Per capita	2008 Net Valuation Rank
	Est. 2007	Persons/Sq.Mi.	Tax Rate					
Alexandria	1,511	35	16.55	75	2,571	152	156,530	169
Bennington	1,508	132	23.79	206	1,843	48	77,521	27
Effingham	1,467	38	16.16	70	2,034	84	126,199	131
Freedom	1,410	41	9.90	16	3,869	219	391,215	223
Milan	1,367	21	17.39	95	1,558	16	90,888	50
Sandwich	1,366	15	10.90	21	3,001	185	276,312	207
Mason	1,330	55	18.50	119	2,374	134	128,512	136
Lincoln	1,316	10	8.50	8	5,487	231	647,247	231
Willmot	1,296	44	18.26	110	2,684	165	147,078	156
Salisbury	1,270	32	17.82	101	2,137	102	120,918	114
Grafton	1,242	30	16.92	80	1,704	30	100,869	66
Woodstock	1,199	21	15.61	62	3,322	203	213,092	197
Danbury	1,182	31	16.97	84	2,056	87	121,276	118
Orford	1,162	25	21.68	183	2,902	177	134,118	142
Smallest NH Town								
Hart's Location	32	2	6.65	2	3,132	195	473,701	227
Largest NH City								
Manchester	108,580	3,290	17.35	92	1,550	15	89,508	44

Data Source: NH Department of Revenue Administration & NHOEP

Another way of looking at the Sandwich tax rate is to compare it to other communities that have similar tax rates, regardless of their population. Figure 6-17 shows this comparison. It is very interesting to note that many of the municipalities in the lakes region are very closely ranked in terms of their tax rate. The net valuation ranking for these same communities shows that nearly all of them also have among the highest valuation per capita in the state.

By comparison, New Castle has the lowest tax rate in the state and Claremont has the highest.

Figure 6-17: Towns with Similar Tax Rates to Sandwich

	OEP Population Est. 2007	OEP Pop. Density Persons/Sq.Mi.	2008 Actual Tax Rate	2008 Tax Rate Rank	2008 Gross Taxes Per Capita	2008 Per Capita Tax Rank	2008 Net Valuation Per capita	2008 Net Valuation Rank
Center Harbor	1,088	82	10.09	17	4,337	225	430,040	225
Wolfeboro	6,341	131	10.62	18	3,419	207	321,925	213
Waterville Valley	284	4	10.68	19	14,522	234	1,360,799	234
Albany	688	9	10.87	20	1,683	27	155,062	166
Sandwich	1,366	15	10.90	21	3,001	185	276,312	207
Jackson	869	13	10.96	22	4,220	222	385,561	222
Stoddard	1,023	20	11.08	23	3,065	191	276,980	209
Alton	5,054	79	11.30	24	3,612	213	319,855	212
Eaton	425	17	11.34	25	2,890	176	255,116	206
Meredith	6,449	160	11.46	26	3,447	208	300,959	211
Seabrook	8,477	942	11.58	27	3,811	218	365,835	221
Holderness	2,007	66	13.18	28	4,427	227	336,160	216
Lowest NH Tax Rate								
New Castle	1,022	1,278	4.68	1	3,232	199	691,153	232
Highest NH Tax Rate								
Claremont	12,898	299	32.59	234	1,836	46	56,437	3

Data Source: NH Department of Revenue Administration & NHOEP

Issues & Challenges

Sandwich has regularly affirmed its desire to remain a rural, small town and not seek to become a community with a higher concentration of non-residential activities. All of the economic and tax base data presented in this chapter confirm this desire. The rate of unemployment has consistently stayed below that of the county and state. From an economic perspective, the town has continued to have slow but steady growth in employment over the past twenty years. Employment in Sandwich is characterized by high levels of self-employment and a dominance of small businesses that employ fewer than ten people.

Furthermore, the Community Survey elicited a high number of comments indicating that town residents do not want to see any chain retail stores or “strip commercial” development in the community. The challenge for Sandwich will be to determine the specific policies necessary to maintain its “small business environment”.

While only about 4% of the town’s workers earn their living in agriculture, forestry, fishing and hunting, it is important to recognize the link between these vocations and the significance that Sandwich residents place on protecting the town’s rural character. Another significant factor in the town’s economy is the considerably higher percentage of households that receive social security income as compared to the state.

The town's tax structure is driven by major reliance on the value of residential properties. Sandwich has one of the highest total assessed values on a per capita basis in the state. This means that there is a much higher proportion of high value housing in town compared to the rest of the state and that the town is very careful about how it spends its public funds.

Action Plan

Vision Goals

Provide opportunity for limited village business activity (e.g., general store/professional offices) that is consistent with the architectural qualities that the town values.

Encourage home occupations that are compatible with and supportive of the town's rural character.

Objective EB 1: Promote a limited mix of residential, retail and office uses that are compatible with the existing visual character of the village and rural character of the town.

Actions

EB 1.1: Review provisions for a mix of residential uses and limited opportunities for small business activities in Center and North Sandwich. *See also further discussion of this recommendation outlined in the Village Center chapter, especially Actions VC 1.1, 1.2 and 1.3.*

EB 1.2: Review and amend, as appropriate, the remainder of the zoning ordinance to be sure that non-residential development in the community continues to be consistent with the town's Vision.

- Consider a set of design standards in the Site Plan Review Regulations that ensure that building renovations, additions and new structures are constructed in a way that they are compatible with the scale, architectural character and building placement of other buildings in the community.
- Review the setback requirement of 200 feet in the Commercial District. If the Town wishes to encourage small-scale commercial and industrial activity along the Whittier Highway, this setback may discourage such activity.
- Review the Sign Regulations to determine if the area requirement should be reconsidered for businesses in the Commercial District. A 32 square foot area restriction may be too small to be read by motorists on the high speed state roadway.

Objective EB 2: Encourage home occupations that are compatible with the rural character of Sandwich without infringing on neighbors ability to achieve quiet enjoyment of their property.

Actions

EB 2.1: Amend the zoning ordinance to specify criteria for home occupations so that allowed home occupation uses do not negatively impact abutting properties. The amendments need to respect traditional home occupations already found in Sandwich including arts and crafts and small construction contractors. Criteria to consider should include:

- The number of non-resident employees
- The average number of daily customers that would visit the business
- The size and type of sign that would identify the business
- The amount and type of exterior materials storage
- The level of noise, odor, dust and lighting that would be noticeable from the property.

Objective EB 3: To preserve the rural character of the town, encourage businesses that are related to maintaining and enhancing the value and sustainability of natural resources.

Actions

EB 3.1: Ensure that agricultural, forestry, and outdoor recreation enterprises are promoted and encouraged through the town's development regulations.

- The regulations need to be examined and amended to eliminate major impediments to the establishment and continuation of business activities that are reasonably connected to these occupations. *See also Actions LU 3.1 and 3.2 in the Land Use Chapter.*

7. Transportation and Circulation

Introduction

Sandwich has several modes of transportation and transportation facilities. The roadway system ranges from gravel country roads that have changed little over the past 20-30 years to a two-lane arterial state highway that passes through the eastern portion of the town.

Associated with the roadway system are much more limited facilities for bicycles and pedestrians, mostly in Center Sandwich. A privately operated mini-bus service has just started in Sandwich and adjacent towns. There is no rail service.

Sandwich's existing roadway transportation system mirrors the historical movement of people and goods and has played an instrumental role in the way that the town has grown and developed. The major roadways that have contributed to the historic growth and development of the town are NH Route 113 and Route 25. Route 113 runs in an east-west direction through Center Sandwich, from the Route 3 and I-93 corridors to the west. Other roadways have contributed to both access to and growth of the town, such as Squam Lake Road and NH Route 109. Interstate 93 is the most prominent regional travel corridor, providing access to Sandwich and nearby communities, although its effect is somewhat limited by the 15-mile distance from the nearest interchange (#24) in Ashland.

While there are several major roadways providing travel within Sandwich, travel and circulation is somewhat restricted in the north-south direction because much of the northwest portion of Sandwich is occupied by the White Mountain National Forest.

Sandwich's roadway system is more than a system of streets for automobile traffic to get from one place to another. It is also closely linked to the use of land adjacent to it. Roadways open up views and provide access. By their design and location they can determine the flow and safety of traffic. Streets are also used by cyclists and pedestrians, particularly in the village areas such as Center Sandwich and North Sandwich.

As Sandwich continues to grow, the town will need to respond to changing demands for providing a well-managed transportation system. This section of the Master Plan updates the inventory from the transportation chapter of the 1981 Master Plan, assesses the current transportation system, evaluates the community's desire for a transportation system and proposes recommendations for achieving the town's transportation goals.

Regional Transportation System

Sandwich is part of the Lakes Region Planning Commission, which manages the regional transportation planning program in cooperation with the NH Department of Transportation

(DOT). The Commission prepares biennial regional transportation plans that guide development of the transportation system for 20 years. The more specific tasks to be conducted by the LRPC are done through the Unified Planning Work Program (UPWP) and are accomplished over a two-year period.

The most recent plan was completed in January, 2008 and includes projects that are to be fully or partially funded by the state from 2009 to 2035. The regional plan serves as a guide for the development of regional transportation improvement programs (TIP). The TIP is developed biennially and submitted to the NHDOT for their consideration and implementation.

In addition to the long-range plan, a four-year Transportation Improvement Plan (TIP) was also completed in October of 2008. This plan identifies specific projects for implementation in each of the Lakes Region communities through 2012. The projects in the TIP and Long Range Plan were adopted through a cooperative process between the NH DOT, the regional planning commissions and the local communities. The local communities have representation on a Technical Advisory Committee (TAC) and a Policy Advisory Committee. Sandwich does not have a member on the TAC. The laws place strong emphasis on plans that:

- reflect locally established project priorities;
- are financially realistic;
- are consistent with the State's plan for air quality attainment (the 'SIP') and
- are developed with meaningful public involvement.

Typical projects include:

- Construction, reconstruction, resurfacing, restoration, and rehabilitation;
- Capital costs for transit projects and publicly owned intra-city or inter-city bus terminals or facilities;
- Highway and transit safety improvements;
- Fringe and corridor parking facilities;
- Carpool and vanpool projects;
- Participation in wetland mitigation and wetland banking;
- State bicycle and pedestrian coordination;
- Pedestrian and bicycle facilities;
- Acquisition of scenic and historic sites;
- Scenic and historic highway programs;
- Rehabilitation of historic facilities;
- Preservation of abandoned transportation corridors;
- Control and removal of outdoor advertising; and
- Mitigation of water quality impacts from roadway runoff.

There are eight projects within the Lakes Region that are scheduled to move forward for the 10-year period 2009-2018. None of these is within Sandwich.

Regional Highway Network within Sandwich

There are several transportation routes that carry the majority of long distance travel, both within and to and from the region. These routes carry the highest volumes of people and goods between the communities, the regional employment and other activity centers. A number of these major routes are near or within the Town of Sandwich. **See attached map, Roads by Legislative Class in Appendix B.**

Interstate 93 (I-93) is a four lane divided highway that runs in a north-south corridor approximately 15 miles west of Sandwich. The route serves as a major commuter corridor in the region, as well as handling year round tourist traffic. Based on NH DOT traffic volume reports this roadway experiences almost 20,000 vehicles per day. It is classified as a major arterial roadway by NH DOT.

NH 25 is a major east-west two lane roadway that runs through a small portion of southeastern Sandwich for about 4 miles. It originates at the Vermont border, proceeds through Holderness in the west and runs through Moultonborough, Sandwich and Tamworth, and then to the NH state line with Maine in the east. It carries approximately 4,000 vehicles per day and is classified as minor arterial roadway by NH DOT.

NH 113 is a two lane roadway that provides a link from I-93 to the west through Sandwich to Tamworth to the east. Volumes vary from approximately 600 vehicles per day at the Holderness town line with Sandwich to approximately 1100 near Center Sandwich to 240 at the Tamworth town line. It is classified as a collector roadway by NH DOT

NH Route 113A is also a two lane roadway that splits off from Route 113 at North Sandwich Village and travels north east to the Tamworth town line. It carries approximately 460 vehicles per day and is classified as a collector roadway by NH DOT.

NH Route 109 is a north-south roadway that extends from Center Sandwich at the intersection with NH 113 south to the Moultonborough line and then continues further to the Town of Wolfeboro and eventually into Maine. It is a two lane roadway that carries up to 1500 vehicles per day near the intersection with Route 113 and as little as 780 per day near the Moultonborough line. It is also classified as a collector roadway by NH DOT.

Squam Lake Road. Although not a numbered state roadway, this two lane road carries traffic from the Route 25 intersection in Center Harbor to Center Sandwich. Approximately 1100 vehicles per day use this roadway, which is classified as a collector by NH DOT

Little Pond Road is also a two-lane state maintained roadway that extends from Route 109 at Lower Corner to Route 25. There is no traffic volume data for this roadway segment, which is classified as a local roadway by NH DOT.

The remaining roadways in Sandwich are local and classified as minor roadways by NH DOT.

Local Transportation System

Roadway Classification System

In New Hampshire roadways are classified in several ways for administrative and functional purposes. The administrative classification system is based upon criteria established by the NH Department of Transportation (NH DOT) for purposes of maintenance, and it identifies which level of government is responsible for maintenance and construction. The functional classification system classifies roads by their capacity to handle traffic and their particular land use setting.

Administrative Classification—Legislative Class

The Administrative Classification system identifies six classes. Four of these are found in Sandwich. A full description of each class is found in **Appendix A. See attached map, Roads by Legislative Class in Appendix B.** The state lists 128.8 miles of roads in Sandwich, both public and private. Of these, 30.3 miles are state roads (Class I and II). They are classified as follows:

- **Class I-Trunk Line Highways**—part of the primary state highway system. The state pays for construction and maintenance. There are 4.1 miles of Class I roads in Sandwich—all of which are NH Route 25.
- **Class II-State Aid Highways**—part of the state secondary highway system. The state also pays for construction and maintenance. Such roads as NH Routes 109, 113, 113A, Little Pond Road and Squam Lake Road fall into this category. Sandwich has 26.2 miles of Class II highways.
- **Class III, Recreational Roads and Class IV-Town and City Streets**—Sandwich does not have any recreational roads or city streets.
- **Class V-Rural Highways**—all other traveled roadways that are maintained by the town. There are 65.2 miles of rural highways in Sandwich.
- **Class VI-Unmaintained Highways**—consist of all other public ways that have been discontinued or not maintained in a suitable condition for five years or more. Sandwich has 5.1 miles of Class VI highways.
- **Private Roads.** These are privately maintained local roadways. There are 29.2 miles of private roads in Sandwich. This is a relatively high number compared to other regional communities.

The town is directly responsible for the upkeep and maintenance of approximately 65 miles of roadways, a relatively large network for a population of about 1,300 people. The cost of maintaining such a system is significant. Almost all of the Highway Department's budget is devoted to road upkeep, maintenance and repair. The 1981 Master Plan reported that in 1971 the budget for roads was almost \$50,000 and by 1979 it was almost \$140,000. Assuming costs for personnel, materials and vehicle maintenance/repair, the 2009 cost was approximately \$500,000 or the equivalent of \$7,600 per mile annually. In 1971 it was approximately \$2,100 according to the 1981 Master Plan.

Functional Classification

Functional classification systems for Sandwich have been prepared by the NH DOT based upon federal standards in terms of the function the roadway serves. In many communities these systems are modified for local purposes, although Sandwich has not classified its road system this way. This system is based upon a determination of the role that each roadway system performs in terms of traffic capacity and land access. **See attached map Figure B-2, Roads by Functional Class in Appendix B.** The Sandwich functional classification system is similar to the legislative classification and is broken down as follows.

- **Arterial (Rural)** A network of continuous routes that provide mobility for relatively high vehicle volumes and high travel speeds (rural) with minimal interference to through traffic. The only roadway classified as an "arterial" in Sandwich is NH Route 25. (4.1 miles).
- **Collector (Rural)** Branches off of the arterial system that provide access to adjacent lands and provide service for travel over relatively short distances, typically to other collectors and local streets. The following roadways are classified as "rural collectors" in Sandwich—NH Route 109, NH Route 113, NH Route 113A and Squam Lake Road. In total these are 23.8 miles.
- **Local (Rural)** Branches off of the collector system that provide direct access to adjacent land, but relatively little mobility between locations. Most of these are typically locally-maintained roadways. These include the remainder of the roadway system in Sandwich except for the private and Class VI roads. (67.5 miles)

These classifications are useful for roadway planning, since they provide a means for implementing standards and specifications to handle appropriate levels of traffic, establish roadway character and identify roadway sections for maintenance and reconstruction. For example, local roads could conform to the Street Design Standards in the town's Subdivision Regulations.

Scenic Roads

Local communities may designate certain roadways within their community as scenic in accordance with NH RSA 231:157. Such a designation is a good tool for maintaining the scenic

quality of Sandwich. In 1972 the Town of Sandwich voted at Town Meeting to designate all of its town roadways as scenic with respect to this state law. However, this article does not extend to any local roads that may have been accepted by the town since that date. It is believed that the following town roads would not be considered scenic under this designation: Sandwich Slopes Road, Church Street, the initial section of Diamond Ledge Road (right after Grove Street), Mt. Israel Road (from Grove Street to Dale Road), and Grove Street. (See also the Historic Resources chapter for more on scenic roads.)

Roadway Survey Program

In 1998, the Town of Sandwich engaged the University of New Hampshire Technology Transfer Center to survey the town's roads, assess their condition and make recommendations for upgrades, with associated costs. Proposed actions ranged from minor reshaping of unpaved roads to major reconstruction, such as for Vittum Hill Road and Wing Road. The Highway Department used this document for guidance in determining its annual work program. No such survey has been conducted since that time.

Traffic Volumes

Traffic volume data is one of the components in evaluating traffic characteristics within Sandwich. This information is an important part of the process in establishing priorities for future roadway improvements. Design and safety standards for roadways typically incorporate traffic count data. Traffic counts are derived from traffic recorders at selected locations through the state and within Sandwich. These numbers are converted to Average Annual Daily Traffic (AADT) for purposes of comparing one traffic count location to another.

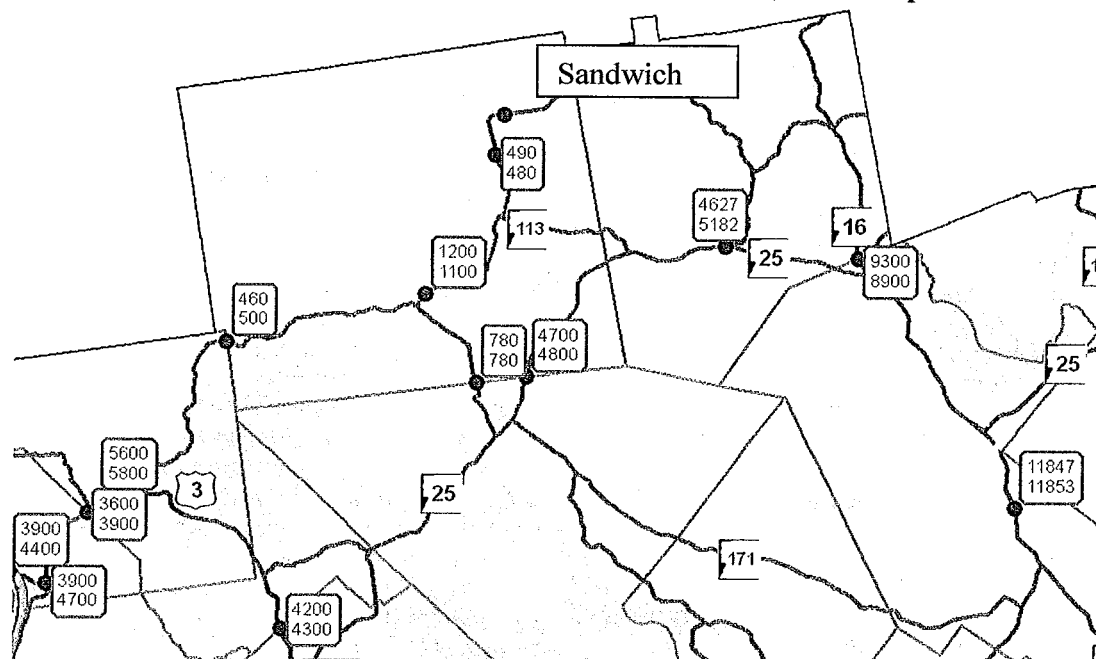
The NH DOT's Bureau of Transportation Planning monitors traffic throughout the state and publishes monthly reports for 79 automatic traffic recorder locations. In addition, the department conducts traffic counts during the summer months at additional locations, usually under contract to the regional planning commissions. There are no permanent stations in Sandwich. The closest is in Tamworth, at the junction of NH Route 113 with NH Route 25.

Based on the regional map of selected traffic count locations in **Figure 7-1**, it would appear that traffic counts from the period of 2001 to 2006 have increased only modestly. In some instances there have been decreases, such as along Route 113 in Sandwich and Route 16 in Tamworth.

The available traffic data may not be as comprehensive as might be desired for local decision-making. However, the traffic volume data that have been collected would appear to be generally consistent with the modest increase in population in recent years. That is, while there have been some increases in traffic volume in some locations in Sandwich, for the most part volumes have been relatively flat. This assessment would indicate that the town does not need to consider significant changes to the town's roadways to accommodate changes to traffic

volume. There are no heavily travelled roadways within Sandwich. The nearest heavily travelled roadways that have an impact on traffic volumes in Sandwich are I-93 and NH Route 25. Interstate 93 is the most heavily travelled, and in 2008 recorded an average annual daily trip count at the Holderness/Plymouth town line of 18,500 vehicles, compared to 20,000 in both 2002 and 2004.

Figure 7-1. Regional Traffic Volumes, AADT; 2001 compared to 2006



Source, LRPC, Transportation Plan, 2008

In addition to the permanent recorder on I-93, NH DOT has 12 other stations throughout the town where traffic is recorded. In addition, there is a station in Holderness at the Sandwich town line on NH Route 113, and two stations in Moultonborough at the town line—one on NH Route 109 and the other on NH Route 25. However, in any given year the state may conduct counts at eight or fewer locations. In order to obtain a trend analysis for volume change at the same stations, the following figure—**Figure 7-2**—compares data from 2003 to 2009 for seven stations—four in Sandwich and three at the town line either in Holderness or Moultonborough stations. A second figure—**Figure 7-3**—compares five stations for 2004 and 2007.

For the stations in **Figure 7-2**, four showed no increase and one, NH 25 at the Sandwich town line, showed a significant decrease. Two stations (Routes 113 and 113A) showed increase, but since the raw numbers are lower than the other stations, this increase probably cannot be considered significant.

Figure 7-2
Sandwich Daily Traffic Counts by Station, 2006 to 2009

#	Location	Traffic Trends			Change	
		2003 AADT*	2006 AADT	2009 AADT	2003 to 2009	%
1	NH 113A at Whiteface River	230	200	240	10	4.3%
2	NH113 Center Sandwich	1100	1100	1100	0	0%
3	NH 113 A at Cold River	460	480	460	0	0%
4	NH 25 at Meadow Brook	4,900	4,800	4,900	0	0%
5	NH 113 (Holderness) at Sandwich town line	420	500	610	190	45.2%
6	NH 25 (Moultonborough)at Sandwich Town Line	4,900	4,800	4,000	900	-18.4%
7	NH 109 (Wentworth Hill Rd.) at Sandwich/Moultonborough town line**	780	780	780	0	0%

Source: NH DOT

*Note: AADT means Average Annual Daily Traffic Count. It is a figure derived from traffic recorder data for a given period of time that is modeled to provide an average daily count the full year, thereby incorporating seasonal fluctuations.

**Note: Just south of Route 113 intersection in at Lower Corner counts in 2007 indicated volumes as much as 1500.

Figure 7-3
Sandwich Traffic Counts by Station, 2004 to 2007

#	Location	Traffic Trends		Change	
		2004 AADT	2007 AADT	2004 to 2007	%
1	NH 109 south of NH Route 113 (Center Sandwich)	1,200	1,500	300	25.0%
2	Squam Lake Road, south of Great Rock Rd.	930	1,200	270	29.0%
3	Squam Lake Road, south of NH 113	1,000	1,100	100	10.0%
4	NH 113 over Bearcamp River	880	920	40	4.5%
5	Durgin Bridge Road over Cold River	180	250	70	38.8%

Source: NH DOT

Based on the data from the 1981 plan, the traffic count on Route 25 at Meadow Brook was 3,000 vehicles per day in 1979. Over the almost 30 year period since then, the traffic has increased by 1,900 trips or 36.6%—slightly more than 1% per year. The counts on Wentworth Hill Road by contrast have increased from about 400 in 1979 to 780 (See Figure 7-2.) —an almost 50% increase, but this is for a relatively small raw number increase.

Figure 7-3, on the other hand, showed increases at all the stations, ranging from 40 to 300 trips (4.5 to 38.8%) during the period from 2004 through 2007. These numbers may reflect an incremental increase based on good economic growth during this period. They do not include subsequent years, such as **Figure 7-2**, when traffic counts were flat or declining, perhaps reflecting the effects of slower population growth and a slowing economy. Interestingly, the stations reporting relatively larger raw number counts tend to be in the Center Sandwich area. In other parts of Sandwich there appears to be little or no increase in numbers. While it is not completely clear why this difference may appear on the same roadway, it may be attributed to additional local traffic that is centered around the relatively higher density areas of Sandwich,

Traffic Volumes and Congestion

Traffic congestion in New Hampshire is measured by Level of Service (LOS). Based on a number of factors that affect congestion including AADT and road configurations, LOS analysis is designed as an indication of how well traffic moves along a highway system. Low congestion indicates general operating conditions where traffic is generally free flowing, medium congestion indicates stable flow approaching unstable conditions, and high congestion is associated with unstable traffic flows. Based on determinations by NH DOT, Sandwich experiences little to no congestion. The nearest medium congestion is experienced along Route 171/109 in Moultonborough, while the nearest high congestion is experienced along NH Route 25 from Meredith through Center Harbor into Moultonborough.

These congestion conditions are generally found during the summer months when there are many tourists and visitors to the Lakes Region. Variation in seasonal traffic counts tend to be more evident in communities south of Sandwich. For example, based on 2006 data, traffic counts along Route 28 in Wolfeboro showed a 30% increase in traffic whereas the NH Route 109 station in Moultonborough at the Sandwich line showed a less than 1% increase.

In general, it appears that the level of traffic has remained steady or declined at these stations for the past several years. While traffic volumes are usually correlated to population increase, it may be the increase in population in Sandwich was not significant enough to result in increased traffic volume. Some of this trend may also be due to factors such as increased gasoline prices during certain periods that may have had the effect of depressing vehicle miles traveled.

Accidents

One of the key items in determining a roadway's sufficiency is its safety. In an effort to assess roadway safety, it is useful to examine accident data. Accident data is collected by local and state police and then provided to the NH DOT. At present, the original data may not always be consistent in terms of location. Locations can be by street address, distance from an intersection or given as a street name that may not always correspond to the town's street map,

or may be referred to as a Route # or local roadway name. For example, accidents may be recorded as occurring on NH Route 109 or Wentworth Hill Road.

While NH DOT maintains the most comprehensive data base, it uses the information only for its roadway planning projects. The data is not usually analyzed on a more detailed basis for local planning purposes to determine high accident areas. Such analysis is important if there are a high number of accidents in a given location over a given period of time; such a roadway becomes a safety concern to be addressed.

There does not appear to be a significant trend in the number of accidents within Sandwich. In

Year	# of Accidents
1995	28
2004	42
2005	26
2006	26
2007	46
2008	42

Source: NH DOT

1995, there were 28 accidents. By 2008 there were 42 or an increase of 50%. However, looking at the past five years of records, incremental increases in accidents does not occur annually as shown in the table.

Of the approximately 42 accidents in 2008, 14 or 33.3 %, occurred on NH Route 25 (Whittier Highway), while another 14 occurred on one of the other state numbered roadways or Squam Lake Road. Almost 70% of the accidents occurred on the town's arterial or major collector roadways, with the remainder on local roadways. Similar numbers by location were recorded for 2004,

where 13 of the reported 42 accidents were on Whittier Highway. Based on these data, the highest number of reported accidents occur on Whittier Highway and the other state aid highways within Sandwich. These traffic data are consistent with similar sized communities in the region, but the number of accidents is particularly correlated to the nature of the road system, i.e., where there are more high speed primary or arterial roadways there tend to be more accidents. It would appear that any safety improvements should be considered for these roadways in cooperation with the NH DOT.

Bridges

The New Hampshire DOT and the Town of Sandwich Department of Public Works are responsible for bridge maintenance and construction. If a bridge is on a state-aid roadway, it is the responsibility of the state, and if on a locally maintained roadway it is the responsibility of the town. There are twenty-seven (27) bridges in Sandwich—eleven under the jurisdiction of the DOT and sixteen under the jurisdiction of the town.

The New Hampshire DOT has a state-wide bridge inspection program that is based on the National Bridge Inspection Standards System. All bridges are inspected every two to three years and, depending upon location, use and condition, they may be inspected on a less formal basis more frequently. In Sandwich the last documented inspection was in 2008. Bridge condition is rated on a numerical rating system (FSR) from 1-100 where the higher the number rating the better the condition of the bridge. See Figure 7-4 for a listing of bridges by

ownership and rating. From this inspection rating program priorities are established for maintenance, repair and replacement of bridges.

If a bridge is red listed, it receives the highest priority for repair and/or replacement, although it does not necessarily imply that the bridge is unsafe. There are no state bridges that have been red listed, but there are two local bridges in this category—the Durgin Bridge over the Cold River and the Quaker Whiteface Bridge over the Whiteface River. Durgin Bridge is also on the National Register of Historic Places—thus any repairs will need to be cognizant of this designation.

Figure 7-4. Sandwich Bridge Inventory

Location	Last Inspection	Jurisdiction	FSR Rating
Sandwich Notch Road over Algonquin Brook	Sept. 2008	Sandwich	70.1
NH 113 over Eastman Brook	July 2008	NH DOT	75.3
Sandwich Notch Road over Beebe River	Sept. 2008	Sandwich	81.8
NH 113 over Intervale Pond Inlet	July 2008	NH DOT	70.7
Sandwich Notch Road over Bearcamp River	Sept. 2008	Sandwich	81.8
Sandwich Notch Road over Bearcamp River	Sept. 2008	Sandwich	70.7
Sandwich Notch Road over Bearcamp River	Sept. 2008	Sandwich	78.0
NH 109 over Red Hill River	July 2008	NH DOT	81.4
NH 113 over Stanton Brook	July 2008	NH DOT	87.1
School house Road over Red Hill River	Sept. 2008	Sandwich	40.6
Basket Street over Bearcamp River	Sept. 2008	Sandwich	37.9
Bennett Street Loop over Pond Brook	Sept. 2008	Sandwich	76.7
Upper Road over Bearcamp River	Sept. 2008	Sandwich	68.3
Bennett Street over Pond Brook	Sept. 2008	Sandwich	97.0
NH 113 over Bearcamp River	July 2008	NH DOT	48.4
Whiteface Interval over Whiteface River	Sept. 2008	Sandwich	54.9
Young Mtn. Rd. over Cold River	Sept. 2008	Sandwich	56.5
NH 113 over Cold River	July 2008	NH DOT	50.9
Middle Road over Bearcamp River	Sept. 2008	Sandwich	47.9
NH 25 over Weed Brook	July 2008	NH DOT	82.8
Quaker Whiteface Rd. over Whiteface River*	Sept. 2008	Sandwich	37.2
NH 113 over Whiteface River	July 2008	NH DOT	72.0
Bearcamp Pond Rd. over Bearcamp River	Sept. 2008	Sandwich	56.5
Durgin Bridge over Cold River*	Dec 2009	Sandwich	Not Rated
NH 113 over Mill Brook	July 2008	NH DOT	77.9
NH 25 over Meadow Brook	July 2008	NH DOT	92.9
NH 113 over Cold River	July 2008	NH DOT	98.2
Bennett Street Loop—Not on state inventory**		Sandwich	
*Structurally Deficient—State Red List			
**Discontinued by the Town in 1981, but then became a Town Road again in 1989 based on terms of a Conservation Easement for the surrounding property.			

Source: NH DOT

The town has commissioned an engineering study to assess the locally-owned bridges and come up with a work program and estimates for upgrading the bridges. Upon completion, the proposed actions in this study will provide the basis for allocating costs for the future capital improvement planning.

Alternative Transportation

Rail

At present, there is no passenger rail service to or from Sandwich. The closest operating passenger rail service is from Dover, New Hampshire, which has one of the passenger stations for the new AMTRAK Downeaster service that travels over tracks currently owned by Pan American (formerly the Boston and Maine Railroad) between Portland and Boston. The State of New Hampshire is currently working on establishing rail service through a program called the NH Capital Corridor that would provide service from Concord to Lowell, which is already connected to Boston.

The closest rail bed is a north-south rail line located in West Ossipee, parallel to NH Route 16. This former passenger and freight line is currently owned by NH DOT, which is holding on to the right-of-way as part of its plan to convert it to a rail trail for bicycle travel.

Air

The closest major commercial airport with scheduled service is the Manchester-Boston Regional Airport, approximately 75 miles from Sandwich. In addition to passenger service, this facility handles both freight and cargo services. Manchester Airport is served by 8 airlines and has been one of the fastest growing airports in New England. It has recently completed a major renovation that includes the lengthening of both runways, terminal expansion and a new air traffic control tower.

In addition to Manchester, there are smaller airports, generally for locally-based or transient pilots, in both Laconia and Moultonborough. The Moultonborough airport, about four miles from Sandwich, has an approximately 3,500 foot lighted asphalt runway.

Public and Private Transit Services

Concord Trailways has stops in Moultonborough and Meredith that serve Sandwich residents. The Carroll County Transit Project, a government sponsored mini-bus service has recently been established in the Lakes Region, providing an on-demand service to area residents. The community survey conducted as part of this update, however, showed there was little interest in using regularly scheduled, local public transportation.

Bicycle Routes/Paths/Trails

At present, there is no local inventory of bicycle routes and paths in Sandwich. The town is part of a regional bicycle network, as defined by the New Hampshire DOT. The DOT has defined a statewide bike route that goes through Sandwich and includes Routes 113 and Route 109. There is no formal policy or program with respect to provision of bike lanes on roadways within Sandwich. The town may want to consider providing some greater opportunity for safer bicycle travel by adding shoulder pavement during roadway improvement projects.

There are numerous recreational trails in and around Sandwich, associated with and maintained by such organizations as the Appalachian Mountain Club, the Squam Lakes Association, the Wonalancet Outdoor Club, the Over-The-Hill-Hikers and the Sandwich Sidehillers. Many of these are listed in the 1981 Master Plan in the Transportation Chapter.

Sidewalks

Sandwich has a small network of sidewalks, all located in Center Sandwich and all maintained by the town. This network includes the following links:

- Central School to the intersection of Route 113 and Squam Lakes Road.
- From Squam Lake Road intersection east through downtown to Quimby Field Road
- Two short links on either side of 113 going west
- One short link on Maple Street from Church Street to the Children's Center

At present, there is no link along Maple Street between Church and Main Street, and no detailed plans for additional sidewalks elsewhere in town.

Local Transportation Projects and Funding

The town votes each year at Town Meeting to expend Highway Department funds for repair, maintenance and upkeep of roads, bridges and sidewalks. At the 2010 Town Meeting, this amounted to almost \$648,000. In 2009, the Library parking lot and Quimby Field Road were repaved with associated improvements to drainage. In 2010 the Department made major repairs to Maple Ridge Road.

Major local transportation projects are funded through a Capital Improvement Plan. The highway projects that are included in the Capital Improvement Plan, while subject to change, are noted by year below for the next five years. **See Figure 7-5.** The Town Report for 2009 extends this Capital Budget out to 2030.

Figure 7-5. Five-Year Capital Project Expenditures for Roads

Road/Year	2010	2011	2012	2013	2014
Maple Ridge Road	\$192,000	\$100,000			
Mountain / Palmer Hill Rd.		\$200,000	\$160,000		\$125,000
Foss Flats Road					\$200,000

Source: 2010 Sandwich Town Report

Components of Change to Traffic Volumes

Population Increase

A significant component of traffic volume increase is attributable to the increase in population. This includes both regional and local growth.

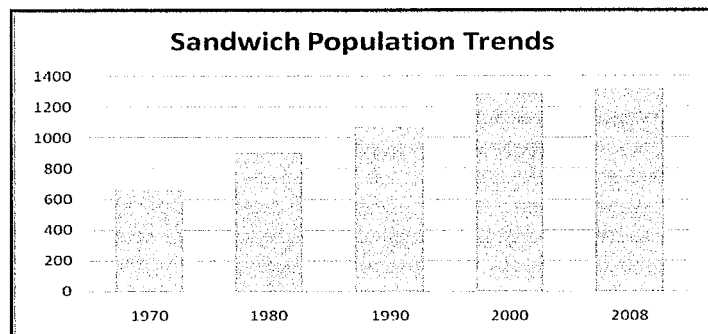
Regional Growth

In 2000 the Lakes Region population was 106,428; this is projected to grow to 141,270 by 2025. This reflects the year-round population of the region. Seasonal visitors dramatically increase the actual number of people in the area and the number of vehicles on the road.

The annual rate of growth for the region during the past two decades (1980-2000) was 1.81 percent, slightly higher than the statewide rate of 1.71 percent. For the period 2000 to 2020, the annual rate of growth for the state as a whole is projected to decrease to 0.95 percent, while the Lakes Region is projected to continue to grow at an average annual growth rate of 1.45 percent. As depicted in Map 1, nine of the 30 communities in the Lakes Region are projected to experience a growth rate greater than the projected regional average. Sandwich is expected to grow at less than 1.45 %. Traffic volumes would likely increase at a similar rate.

Local Growth

As noted in the Population Chapter of this Master Plan, since the end of World War II the population of Sandwich has grown steadily, reaching 666 in 1970 and 1,070 in 1990. By 2000, the date of the most recent census, the population had



Source: NH OEP, 2009

reached 1,291, approximately 21% more than 1990. Subsequent to this the population increased only slightly for the next several years to 1,316 in 2008. During this period, especially after 2007, traffic counts were relatively level or decreasing, reflecting the small population gains. Based on the most recent analysis from the NH Office of Energy and Planning, by 2020 the

population is expected to increase to 1650 (*NH OEP, 2009*) or a 25% increase. Traffic volumes would be expected to follow this projection

Change in Employment

Another component that contributes to traffic volume is the change in employment that requires many workers to commute to work. From 1996 to 2004, the increase in employment in Sandwich was almost 20%. The rate of employment growth has slowed recently because of the economic downturn (the 2008 annual employment was approximately 252, only a slight decrease in two years, but a major decrease from 2004).

	1992	1996	2000	2002	2004	2006	2008
Total Employment	173	251	287	278	301	255	252

This decrease in employment is reflected in the flat or decreased traffic counts during this same period. Since 80% of Sandwich's workers commute by automobile, traffic is very much tied to employment. It is projected that employment in the region will increase by about 12% by 2016, and it can be assumed that Sandwich will have similar growth. This employment growth is likely to increase traffic counts within the town.

Transportation System Issues and Needs

Sandwich has a significant local roadway network. Although the increase in vehicular traffic should be modest over the next 5-10 years, the town will still face continuing maintenance and upkeep of this system. This activity will continue to be a significant portion of the town's budget.

The Community Survey that was conducted in 2009 came up with the following results with respect to the town's roadway system:

Highway Maintenance—a strong majority (80%) of respondents indicated that maintenance was Excellent or Fair. The rating of Fair was selected by 46% of the respondents.

General Condition of Town Roads—a majority of respondents—61%--indicated that the roads were in Fair condition, with 17% indicating excellent and 20% indicating the roads were in Poor or Very Poor condition. With respect to state highways in Sandwich, almost half the respondents (47%) indicated that these roads were in poor or very poor condition, with another 42% indicating that they were in fair condition.

Action Plan

Vision Goal for Transportation

Provide a balanced transportation system with well-maintained public roadways lined with stone walls, open fields and trees; and encourage opportunities and facilities for pedestrians, bicyclists and recreational users.

Objective T1: Maintain and, where appropriate, improve the current roadway system to provide efficient traffic flow along the major roadway corridors while maintaining a safe environment for pedestrians.

Actions

- T1.1: Consider adding an additional 2 feet of pavement to the edge of current pavement on existing roadways when undertaking repaving or reconstruction. This additional pavement will reduce pavement deterioration along the edge as well as provide a safer area for bicyclists and pedestrians.
- T1.2: Consider requiring a traffic impact analysis in the subdivision and site plan regulations for any development that exceeds a threshold of 50 vehicle trips in any one hour.

Objective T2: Encourage, develop and maintain a range of non-automotive transportation alternatives that are easily available to the residents of Sandwich.

Actions

- T2.1 Work cooperatively with the NHDOT to assure that any state bridges that are rebuilt or reconstructed provide adequate space for sidewalks and/or bicycle lanes.
 - T2.2: Develop a long-range plan for sidewalks in Center Sandwich. In the implementation phase, give first priority to a Maple Street link from Church Street to Main Street.
 - T2.3: Using the existing local trail system as a starting point, work toward a system of bicycle routes and multi-use trails/paths for the enjoyment of Sandwich citizens and visitors that is coordinated with state and regional trail systems.
 - T2.4: In cooperation with the NH DOT, properly mark and sign the state designated bike routes, including Routes 113 and Route 109.
-

Objective T3: Promote transportation policies and improvements that are consistent with the town's policies for protection of natural and historic resources and minimize the impact on residential neighborhoods.

Actions

- T3.1: Review and, as appropriate, update the current roadway design standards to ensure that there is minimal impact to the town's streams and brooks, as well as to ensure impacts from drainage do not degrade stream and pond water quality.
- T3.2: Update Site Plan Review standards to ensure that commercial development provides appropriate levels of landscaping and pedestrian walkways.
- T3.3: Review the town's policy with respect to Scenic Roads and determine if all roads should be considered scenic.

Objective T4: Participate in the coordination of state and local transportation planning that addresses both local and regional needs.

Action

- T4.1: Participate in the Lakes Region Planning Commission (LRPC) planning process for regional transportation planning. Advocate for the Town's interests through staff communications. Consider having a representative on both the Technical Advisory Committee and Policy Committee of the RPC.
-

Appendix A

State Roadway Classifications

ADMINISTRATIVE CLASSIFICATION SYSTEM

Class I, Trunk Line Highways: All existing or proposed highways that are part of the primary state highway system. The NHDOT is responsible for maintenance and construction costs of these highways except for those portions which lie within compact sections of towns and cities with a population of 7,500 or more. Those sections are the responsibility of the cities or towns as Class IV highways.

Class II, State Aid Highways: All existing or proposed highways that are part of the secondary state highway system. Maintenance and construction costs are controlled by NHDOT. Portions of these highways that are within compact sections of towns and cities with a population of 7,500 or more are classified as Class IV highways.

Class III, Recreational Roads: All roads in or leading to and from state reservations as specified by the Legislature. Maintenance and construction costs are the responsibility of NHDOT.

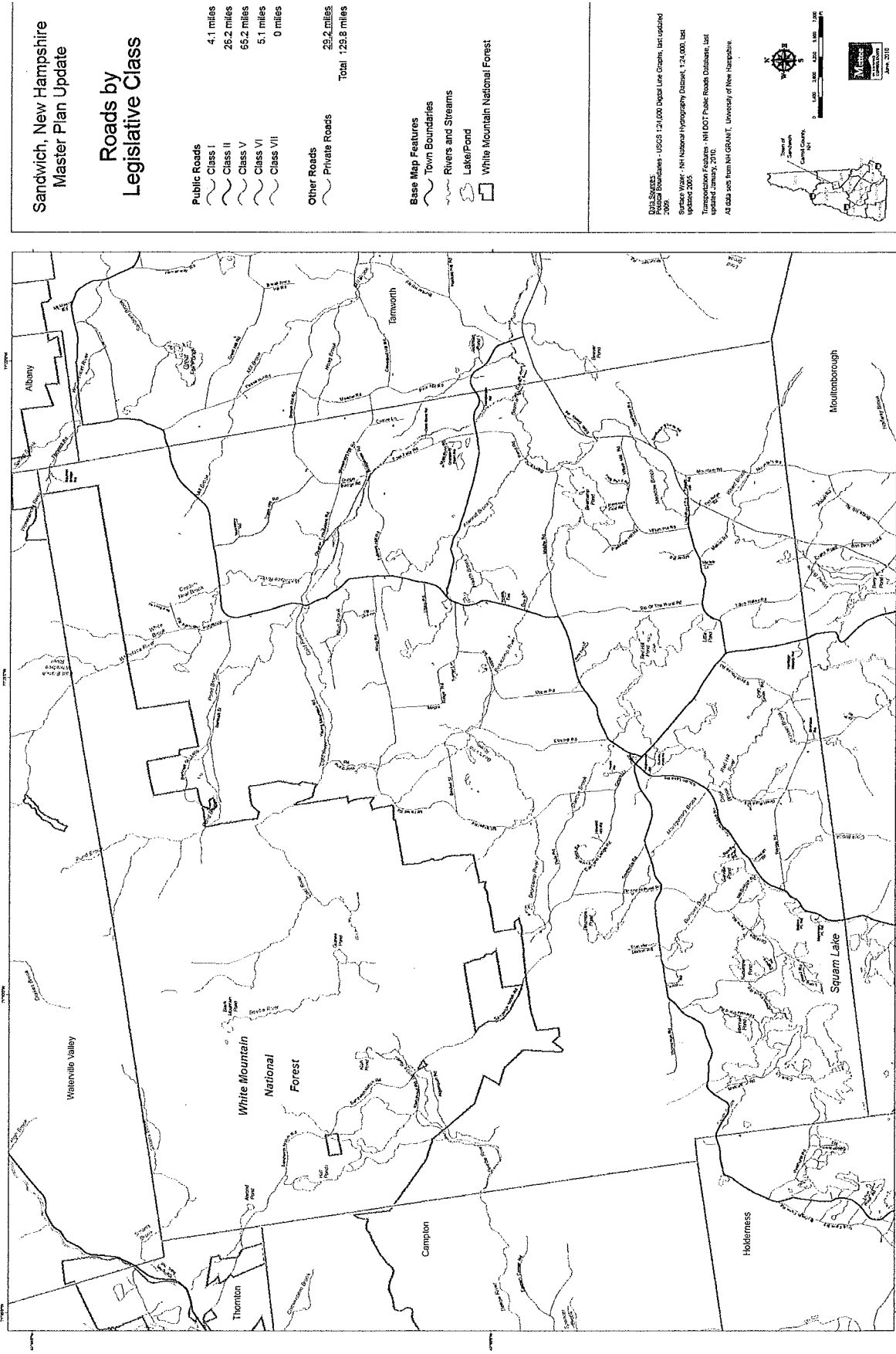
Class IV, Town and City Streets: All highways located within compact sections of cities and towns with populations of 7,500 or more. Maintenance and construction of these highways is controlled by towns and cities.

Class V, Rural Highways: All other traveled highways that are controlled by towns and cities.

Class VI, Unmaintained Highways: All other public roadways; includes highways that have not been suitably maintained for travel for five years or more, highways closed subject to gates and bars, and highways discontinued as open highways.

Scenic Roads: These roads (excluding Class I or II highways) are designated by the town or city such that maintenance and construction of these roads is strictly regulated. Removal or cutting of trees or destruction of stone walls is strictly prohibited except as provided for under RSA 231:157.

Appendix B – Roadway Maps



Appendix B – Roadway Maps



Sandwich, New Hampshire Master Plan Update

Roads by Functional Class

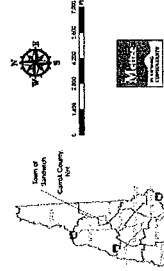
Public and Private Roads

- Arterial 4.1 miles
- Collector 23.8 miles
- Local 67.5 miles
- Other Class VI, Private 34.4 miles
- Total 129.8 miles

Base Map Features

- Town Boundaries
- Rivers and Streams
- Lake/Pond
- White Mountain National Forest

DATA SOURCES
 Political Boundaries - USGS 1:24,000 Digital Line Graphs, last updated 2005
 Land Use - NH National Hydrography Dataset, 1:24,000, last updated 2005
 Transportation Features - NH DOT Public Roads Database, last updated January 2012
 All data sets from NH GRANIT, University of New Hampshire



Appendix C

Proposed Local Roadway Functional Class Standards

Collector	
Right of Way	60'
Street Width	30'
Design Speed (mph)	35-45
Drainage	Open/Closed
Capacity (ADT)	1,500-4,000
Parking	Usually
Sidewalks	Not usually
Bicycle Lane	Maybe

Local/Minor	
Right of Way	50'
Street Width	22'
Design Speed (mph)	25-35
Drainage	Open
Capacity (ADT)	500-1,500
Parking	Never*
Sidewalks	Never*
Bicycle Lanes	Maybe

*Note: Should be considered for compact areas such as Center Sandwich.

8. Energy

Overview

As a result of increasingly heavy United States reliance on foreign oil and mounting concerns about climate change, many US public entities have made efforts to better understand and manage energy consumption and the use of non-renewable energy. Because of New Hampshire's concerns about climate change and its dependence on imported energy it has also taken a number of very important steps:

- March 2007 - Sandwich Town Meeting: Authorized the formation of a Sandwich Energy Committee whose mission is:

To promote energy conservation and the use of renewable resources for municipal, business and home use for the townspeople of Sandwich.

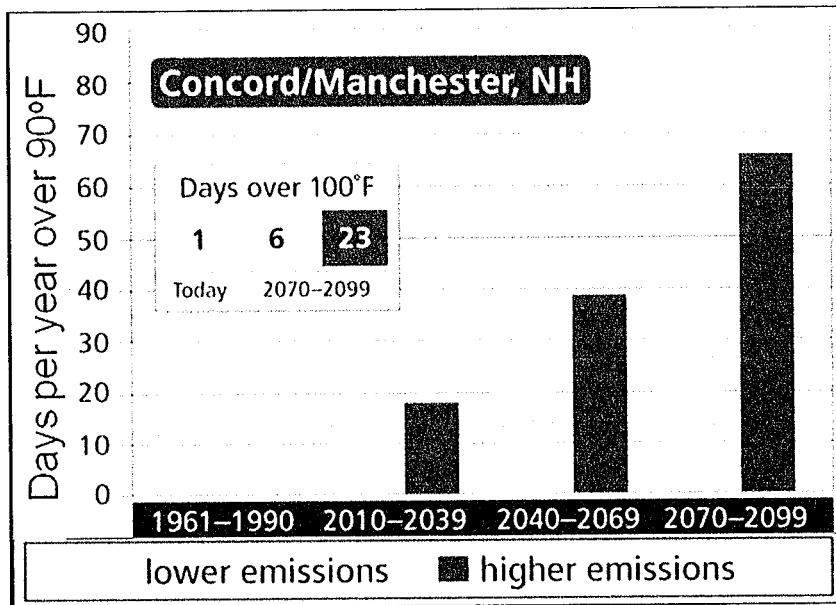
- December 2007 - Governor Lynch signed an executive order creating a Climate Change Task Force and directing it to develop a *Climate Action Plan*.
- 2008 - The New Hampshire Legislature adopted an amendment to the state Planning Enabling Legislation indicating that a town's Master Plan may include:

An energy section, which includes an analysis of energy and fuel resources, needs, scarcities, costs, and problems affecting the municipality and a statement of policy on the conservation of energy - RSA 674:2 III (n).

- March 2009 – *The New Hampshire Climate Action Plan, a Plan for New Hampshire's Energy, Environmental and Economic Development Future* is completed and released. The NH Climate Action Plan (NHCAP) found that the temperature effects of a warming climate would increase the number of days over 100°F in the state from 1 per year to 23 by the latter half of this century if aggressive steps are not taken to combat the causes of global warming. Figure 8-1 shows the projected effects of higher and lower emission scenarios on these temperatures. To address these dramatic changes, the Plan set two primary goals:

- A mid-term goal of reducing green house gases to 20% below 1990 by the year 2025
- A long term goal of reducing green house gases to 80% below 1990 levels by the year 2050.

Figure 8-1. Temperature Effects of a Warming Climate



Source: NH Climate Action Plan, p.12

This chapter will seek to document the energy uses and needs in Sandwich and recommend steps to reduce energy consumption through a variety of conservation measures and suggest options for increasing the use of renewable energy.

State Energy Supply and Demand

Every NH resident consumes the energy equivalent of 1,895 gallons of gasoline per year. 90% of the state's energy comes from petroleum, nuclear, natural gas and coal. The remaining 10% comes from renewable sources which are dominated by wood and hydroelectric.

According to the US Energy Information Administration (USEIA), New Hampshire had the seventh lowest total annual energy consumption per person in the country at 235 million British Thermal Units (MBTU) in 2008. That is the equivalent of 1,895 gallons of gas consumed by each person in the state - every year. By comparison, New York had the lowest per capital consumption at 204 MBTU/person and Wyoming had the highest at 1,106 MBTU. The per capita consumption average for the entire country was 326 MBTU.¹ Figure 8.2 shows the corresponding figures for the northeastern states, as well

Figure 8-2

2008 Per Capita Energy Consumption by State (MBTU)	
United States	326.5
Wyoming (highest in US)	1016.1
Maine	355.6
Pennsylvania	310.3
New Jersey	304.4
Vermont	248.7
New Hampshire	235.5
Connecticut	231.2
California	229.1
Massachusetts	225.4
Hawaii	220.4
Rhode Island	208.9
New York (lowest in US)	204.9
Source: US EIA	

¹ A full listing of energy source and consumption data can be found at the US Energy Information Administration at www.eia.doe.gov.

as the six states that use less energy per capita than New Hampshire. How do these numbers relate to Sandwich? Based on the state per capita consumption and an estimated Sandwich 2007 population of 1,366 people, Sandwich residents use the energy equivalent of 2.6 million gallons of gasoline per year. Assuming that a typical vehicle has a fuel efficiency of about 20 miles per gallon of gasoline, Sandwich residents use enough energy to drive at least 52 million miles every year.

Figures 8-3 and 8-4 provide a summary of the state's major energy sources and end-uses. Figure 3 highlights the fact that almost 40% of the state's energy comes from petroleum. Nuclear energy accounts for 23% with natural gas providing nearly 18% of New Hampshire's needs. Currently only 10% of the states power supply comes from renewable sources that include hydro, biomass (primarily wood), solar, wind and geothermal.

The state's major end-users are led by transportation, which accounts for 34% of all the energy used in the state. Residential uses consume 29%; commercial activity takes up another 23% with industrial holding the smallest share at 14%.

Figure 8-3

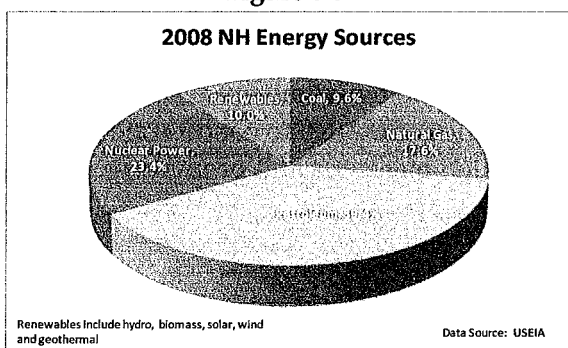
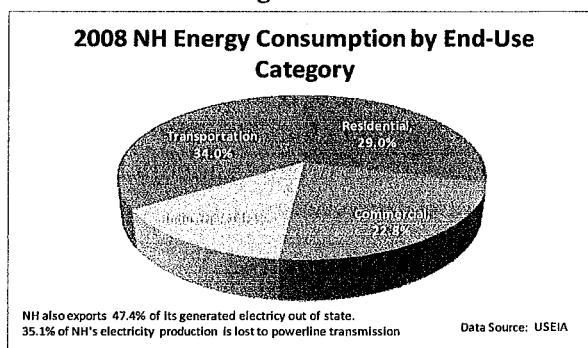


Figure 8-4



A comprehensive chart of the state's energy sources and uses can be found in the Appendix, which further illustrates that:

- ♦ Electricity generation consumes 54% of all the energy used in the state, but nearly half of that is exported.
- ♦ Out of the total electricity that stays in the state, 67% of it is lost in power production and transmission between the power source and the end user, which is consistent with the losses seen throughout the United States.

New Hampshire produces very little of its own energy from local resources. While it does generate a significant amount of electricity at the Seabrook nuclear power plant, the nuclear fuel rods are brought in from elsewhere. Virtually all petroleum products are imported into the state (nationally 84% of the petroleum is imported from abroad). New Hampshire's only native energy sources are small amounts of wind, solar, hydro, geothermal and biomass

(predominantly wood). As stated above, these native energy sources make up less than 10% of the state's total supply.

Because Sandwich is a small community located in a small state, at the end of most fuel supply chains, much of the energy used in town is susceptible to forces beyond local or even state control. In light of this vulnerability, the Sandwich Energy Committee's mission of encouraging conservation and use of renewable energy seems very pragmatic.

Sandwich Energy Use

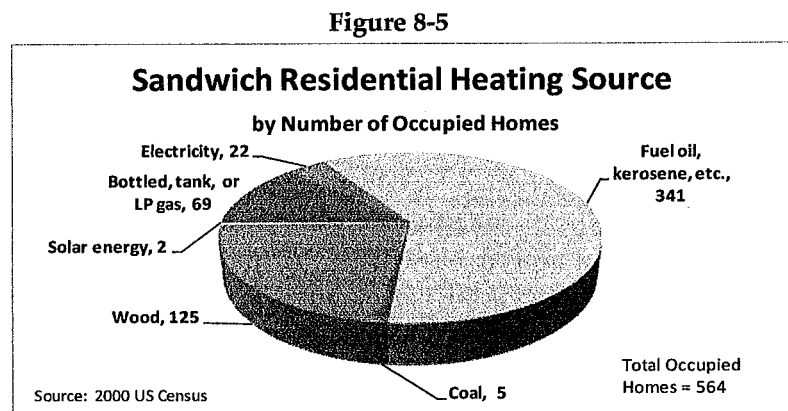
Petroleum provides the largest amount of energy in town, but renewable sources appear to be making some gains.

As noted in the Economic Conditions chapter, more than 98% of the town's developed land is used for single family homes. The total non-residential land use comprises only 1.5%. Given the rural character of Sandwich, the very small amount of commercial property, and the relatively rural development densities, both the residential and transportation segments of energy use will claim a much higher percentage of energy use in town as compared to the state-wide averages. Taking the residential and transportation consumption ratios from Figure 4, it is likely that Sandwich consumes about 45% of its energy in the residential sector, with nearly all of the remainder going to transportation. One positive aspect of the dominant residential land use in town is that it enables the community and the Energy Committee to concentrate their efforts on ways to encourage residential energy conservation measures and promote ways to reduce transportation energy use.

Residential Energy Use in Sandwich

From the residential end-use data displayed in the NH Energy Flows chart in the Appendix, we know that a total of 67% of the electrical energy used to supply homes is lost in electrical generation and transmission. The remaining energy is "useable" in homes. 26.1% of the useable residential energy is from electricity; 58.4% is petroleum based; 12.5% is natural gas with the remaining 3% coming from renewable sources. Sandwich does not have access to natural gas, but likely uses more wood for heating than the state average.

Figure 8-5 shows the distribution of heating sources for Sandwich homes in 2000. Not surprisingly, fuel oil (petroleum) provided 60% of the heating needs for the town, with wood coming in second with 22% of the heating source supply. In 2000, only two homes were reported to have



used solar power for home heating.

The Sandwich Energy Committee recently undertook an inventory of residential renewable energy users in town. Their preliminary results show the following:

Use	Energy Source	Number of Installations
Domestic Hot Water	Solar hot water	23
Electricity	Photovoltaic	36
	Wind	3
Heating	Geothermal	1
Total		63

As of September 2010 a total of 50 residences had installed some form of renewable energy devices. The 63 homes that have renewable energy sources represent only 8% of the town's estimated 640 year round housing stock. Compared to the 2000 housing census information in Figure 5, there has been a significant increase in the amount of solar hot water and photovoltaics in use in Sandwich. The table does not include the approximately 25% of homes that used wood as their primary source of heat in 2000. It is likely that wood heating has seen gains in the last ten years as well.

Residential Opportunities to Reduce Energy Consumption

In order to reduce energy consumption in Sandwich, new buildings could be constructed to much higher energy efficiency standards than current codes specify. Existing buildings can also be retrofitted with a variety of energy conservation measures, including better insulation, weatherstripping, and more efficient lighting and electrical devices. Both new and existing buildings can use renewable energy sources to a much greater degree than at present. In addition to reducing the reliance on imported energy sources, increasing the use of locally generated renewable energy (wind, solar, biomass (wood), and geothermal) can also reduce the total amount of energy that needs to be produced by significantly lowering the electric transmission line losses that result from reliance on centralized power generation. In total, the NHCAP projects that residential energy use should be reduced by as much as 60% (NHCAP, p. 39) to achieve the state's long term energy goals for the year 2050.

Wood

Except for the 25% of homes heated with wood and other renewable energy sources used, the vast majority of Sandwich's energy is imported from out of town, out of state and much of it from outside the country. The Natural Resources chapter documented that 86% of the town land area is forested. Discounting the 28% that is in the White Mountain National Forest, there are approximately 35,000 acres of non-federal forested land in town, only about 10,000 of which is actively managed and harvested.

With sustainable yield management practices, the remaining 25,000 acres of forest in Sandwich offer considerable potential for sustainable energy production. Sustainable yield practices are needed to ensure that there is no net increase in CO₂ emissions from burning wood. Sustainable

yield practices are based on the logic that harvesting wood can be done at a rate no greater than the rate at which trees would mature, die and emit CO₂ as they decompose on the forest floor. The forestry industry estimates that ½ cord of wood can be harvested per acre per year. If all 640 homes in Sandwich heated with wood, at up to 8 cords/house/year, it would take as much as 10,240 acres of managed woodlots to support wood heating for the entire town.

Building Energy Conservation

The main issues that need to be addressed to achieve significant energy reduction in residential buildings are: (1) how to provide the up-front capital to identify and pay for the conservation improvements and (2) educating the public about the costs and benefits of undertaking significant improvements to their buildings.

On August 27, 2010 New Hampshire became the twenty-second state to enable communities to pursue "property assessed clean energy" (PACE) legislation. This is a result of the adoption of New Hampshire House Bill 1554, which towns may now vote to adopt locally. The legislation is now codified as RSA 53-F "Energy Efficiency and Clean Energy Districts." The new statute makes it possible to establish voluntary districts, or the entire town, to finance energy conservation and clean energy improvements to their property and pay off the cost of those improvements over as much as 20 years. If adopted by town meeting, property owners can volunteer to participate in the program, which would require the following steps:

1. An energy audit would be done to their building, energy improvements identified and priced out and an implementation plan agreed to.
2. The property owner would then execute a lien on the property to finance the energy improvements.
3. Repayment of the lien would show as a line item on the property owner's tax bill and be paid off at a rate that would not exceed the annual energy savings on the property.
4. The town, or its agent, would issue a bond to cover the improvement costs within the district and be repaid by each participating property owner for the loan amount, the interest on the bond, and any administrative expenses associated with the program.

The benefit of the program is that the lien runs with the property, and the town is able to recoup all of its associated costs so there is no net cost to the town or other taxpayers who chose not to participate in the program. Adoption of this statute unlocks the door to enable virtually every property owner in the state to undertake energy conservation improvements and sustainable energy investments to their property. With the provisions of RSA 53-F in place, the challenge for Sandwich is now to decide if it wishes to adopt it at the town level and if so, how to set up the program and market it to the community so that it can be widely used.

Renewable Energy Development

The costs of solar hot water, photovoltaic cells, wind and geothermal are becoming more competitive as the cost of the equipment comes down, other energy prices rise, and more financial incentives become available. If the town decides to adopt the provisions of RSA 53-F, as discussed above, then significant interest will likely be generated in pursuing a variety of renewable energy improvements by private property owners. Furthermore, there are currently a number of financial incentives from the NH Public Utilities Commission and the federal government to install renewable energy improvements on residential properties. These government incentives can be applied to the up-front cost of renewable energy installations, lowering the net out-of-pocket cost of the improvement. These incentives can be applied to projects that would qualify under RSA 53-F.

Transportation Energy Use in Sandwich Can Be Reduced

There are three major approaches that can be taken to lower the amount of energy used in transportation: (1) improve the efficiency of vehicles; (2) reduce the number of miles that everyone travels on a daily, weekly or monthly basis; (3) use other forms of transportation that are less energy intensive, such as public transportation, walking and bicycling.

Improved Vehicle Efficiency

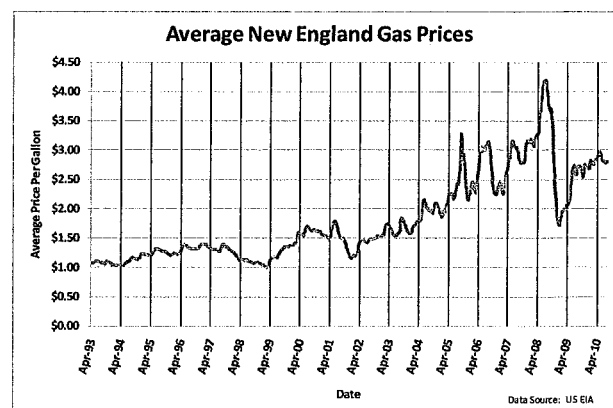
Even the NHCAP recognized that a state as small as New Hampshire does not have enough market clout to force greater fuel efficiency from manufacturers. Regional and federal initiatives to mandate or encourage higher fleet fuel efficiency averages are the only practical approach. In April, 2010, recognizing that there is growing interest in increasing the “corporate average fuel efficiency” (CAFÉ) standards, DOT and EPA announced that a new combined standard (auto and light truck) would begin with the auto model year 2012. The new standard requires combined fuel efficiencies of 34.1 miles per gallon by 2016. As a result of the new standard, EPA predicts that CO₂ emissions in the United States will be reduced by the equivalent of taking 50 million vehicles off the road by 2030.

Reducing Vehicle Miles Traveled

Reducing the number of miles everyone drives is something that every community and individual can directly affect. The simplest way to cut down on travel mileage is to combine multiple trips into one.

- Some communities have instituted programs in elementary schools asking students to encourage their parents to “drive ten fewer miles per week.”
- When fuel prices were at \$4 per gallon

Figure 8-6



in the summer of 2008 (Figure 8-6), people became motivated to find creative ways to lower their fuel use.

- Car-pooling, particularly for regularly scheduled trips to work, school, etc., is also an easily implemented approach. The NH DOT has an active ride-sharing program that can be found on their web site. They also have reported very heavy use at most of their park-and-ride lots around the state.

A longer term approach to reducing vehicle travel is to promote more compact, mixed-use forms of land development that enable people to live, work and shop within walking distance of their home or business. A recent publication of the Urban Land Institute highlighted the fact that the total number of miles driven in this country has grown three times faster than the growth in the U.S. population. After extensive research on how development influences travel patterns that same publication concluded that: *With more compact development, people drive 20 to 40 percent less, at minimal or reduced cost, while reaping other fiscal and health benefits.*²

Encourage Use of Alternative Forms of Transportation

The rural nature of the majority of the community makes any significant provision of public transportation economically challenging. In order for public transportation to be economically viable, concentrations of population are necessary, either in nodes such as village centers or on travel corridors that have higher population densities. The Carroll County Transit Project began a fixed-route transit service in the fall of 2010. This new service travels through Sandwich and connects to Laconia and Ossipee. A connecting route will link the Ossipees with Wolfeboro and North Conway. The Town should explore ways to provide local connecting services to this new bus service. A significant increase in fuel prices, similar to what happened in 2008 (figure 6), could also incentivize public transportation in Sandwich.

Municipal Energy Use in Sandwich

In 2009, Sandwich applied for and received a NH Municipal Energy Assistance Program (MEAP) grant from Clean Air-Cool Planet that was funded by the Public Utilities Commission Greenhouse Gas Emission Reductions Fund. Sandwich was one of only 32 communities selected for the program, which is aimed at providing a step-by-step process to help a select number of New Hampshire communities prepare for municipal building energy improvements that may then be eligible for funding through state and federal implementation programs. Their report: *Municipal Greenhouse Gas and Energy Use Baseline Report for Sandwich, New Hampshire* documents the greenhouse gas emissions and energy use for the town's seven buildings, ten vehicles and forty street lights. Figure 8-7 shows the energy use intensity in thousands of British Thermal Units (kBtu) per square foot of building area and compares the town's buildings to both NH and US EPA averages. The comparison points to the Fire Department and the Town Garage as consumers of about 50% of the energy consumed by municipal buildings.

² Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters & Don Chen, *Growing Cooler: The Evidence on Urban Development and Climate Change* (Washington, D.C., ULI, 2008). p.4

**Figure 8-7. MEAP Building Performance:
Energy Use and Intensity of Municipal Buildings**

Name of Building	Fuel Type(s)	Area Sq.Ft.	Energy Use: Electricity Million Btu's	Energy Use: Heating Fuel (million Btu)	Total Building Energy Use (million Btu)	Percent of Energy Use	Site Energy Intensity (kBtu/Sq. Ft.)	EPA Average Site kBtu/sq ft for building type	NH Average Site kBtu/sq ft for building type
Town Hall	Electricity and Heating Oil	6000	57.7	208.2	265.9	18%	62.6	32.8	69.3
Town Garage	Electricity and Heating Oil	5800	54.25	309.11	363.36	25%	113.6	77	70.3
Police Station	Electricity and Heating Oil	1496	9.03	112.94	121.97	8%	73.6	81.5	100
Whiteface Fire Department	Electricity and Heating Oil	1450	10.03	99.62	109.65	7%	75.6	78	62.1
Sandwich Fire Department	Electricity and Heating Oil	6884	51.77	325.49	377.26	26%	54.8	77	62.1
Recycling Center	Electricity	64	13.03	0	13.03	1%	0	44	55.5
Wentworth Library	Electricity and Heating Oil	9397	48.26	180.02	228.28	15%	23.8	104	81
Totals		31091	244.07	1235.38	1479.45				

Energy use data generated by STOCC software; energy intensity data generated by Portfolio Manager software.

The MEAP report offered seven specific recommendations.

1. Because of its substandard energy performance, a detailed individual building audit should be done on the Town Garage to determine the range of energy improvements that should be considered and evaluate the most cost effective implementation solutions.
2. Sandwich could be used as an energy efficiency educational hub for other area municipalities to learn how to investigate and implement town energy improvements.
3. Because the town vehicles account for at least half of municipal energy use, a comprehensive fleet audit should be done to assess the cost effectiveness of retaining, repairing or replacing existing vehicles based on their energy consumption. This audit should include an assessment of whether each vehicle could be replaced with a smaller, more fuel efficient replacement.
4. Implement a fuel use tracking structure that documents all town vehicle use, gallons consumed and miles driven.
5. Serious consideration should be given to replacing the forty street lights in town with more efficient LED fixtures.
6. The town offices would also be an excellent site to undertake a full building audit and assessment of options. Because of its high use and visibility, energy improvements could be used to showcase how well researched and implemented energy improvements can affect a building's performance.

7. Because Town Hall is scheduled for some significant renovations in the near future, energy improvements should be seriously considered as part of that work, looking at the long term energy savings over the life of the improvements and not just the initial installation costs.

The MEAP report also offered six broader recommendations for energy savings throughout the town (MEAP Report, p.10):

1. Undertake an audit of the town's existing Master Plan, Zoning Ordinances, and other town policies for inconsistencies with the goal to reduce energy usage.
2. Implement a behavioral change program in municipal buildings with municipal employees. Work with the LEC Working Group for guidance to implement this initiative.
3. Implement a buying strategy of Energy Star equipment and products and environmentally sensitive office products, and implement an awareness campaign to encourage "thoughtful" consumption of equipment and products.
4. Evaluate ways to reduce fuel usage within the vehicle fleet. This can be done by analyzing routes, usage, and a strict anti-idling policy.
5. Find alternative energy sources to reduce escalating fossil fuel prices and emissions. Investigate payback for possibly installing: a small combined heat and power (CHP) unit, biomass heating system or geothermal heat pump.
6. Encourage recycling and composting to the extent possible, in order to divert the amount of municipal solid waste (organic matter) going into landfills.

Action Plan

Vision Goals Relating to Energy

Encourage a sustainable community, one that meets our present needs without compromising the ability of future generations to meet their needs

Two other Vision Goals also have important connections to the “sustainable community” goal.

- Vision Goal #10 seeks to provide municipal services in a cost effective manner, including exploration of energy efficiency efforts to improve services and/or reduce overall costs.
- Vision Goal #8 refers to provision of a balanced transportation system, including facilities for pedestrians and bicyclists.

Objective E.1: Undertake Energy Efficiency Improvements in all areas of town government, including buildings, vehicles and operations.

Actions

- E.1.1: Continue to follow-up on the Municipal Energy Assistance Program (MEAP) baseline report by undertaking detailed energy audits on existing town buildings, evaluating life cycle costing of energy related improvements and implementing those that provide a reasonable return on the investment, including consideration for increasing energy costs, availability and greenhouse gas emissions.
- E.1.2: Establish a town vehicle procurement policy that carefully considers the intended use of the vehicle, its durability, vehicle size, energy efficiency and life cycle capital and operating costs.
- E.1.3: Implement a fuel use tracking structure for every town vehicle so that fuel consumption, mileage and use can be monitored to inform decisions about eventual replacement.
- E.1.4: Consider replacing existing town street lights with LED light fixtures and study the feasibility of a phased reduction in the number of streetlights.
- E.1.5: Evaluate life cycle costs, including possible energy improvements, at the time other municipal building improvements and equipment are being pursued.

Appendix

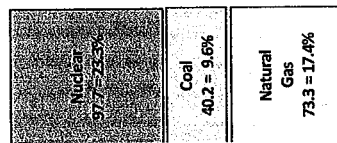
The following chart displays the sources of energy used in New Hampshire and how much each of them provides to the total needs of the state. The energy sources are shown on the left side of the chart and are linked to the energy use categories, on the right side of the chart, by colored bands whose thickness relates to the amount of energy supplied. The key observations from this comprehensive energy flow chart are summarized on pages 5 & 6.

New Hampshire Energy Flows -2008

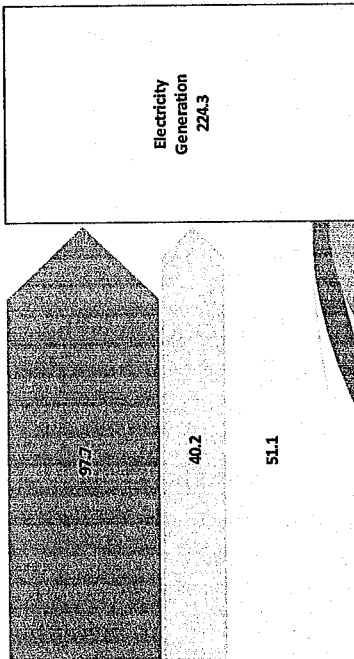
Total State Use: 311.1 Trillion British Thermal Units (BTU)

Hawk Planning Resources LLC
Concord, New Hampshire

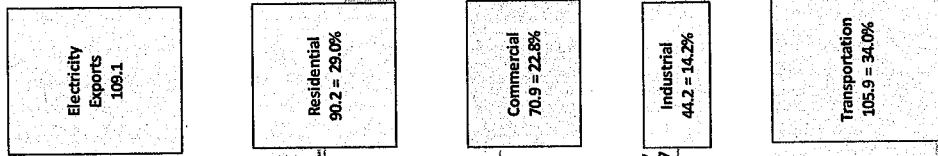
ENERGY SOURCES



Net Imported Electricity 2.8



ENERGY USES



Total Sources = 420.2 TBTU

Total in state uses = 311.1 TBTU

9. Community Facilities and Services

Introduction

One of the primary responsibilities of local governments in New Hampshire is to provide an adequate level of community facilities and services for its residents and businesses. The availability and quality of these services are often major factors in determining the quality of life and general character of a community. Such services include:

- Maintaining roads,
- Maintaining law and order,
- Making provisions for fire protection,
- Emergency medical response,
- Providing educational opportunities,
- Providing a mechanism for solid waste management,
- Providing some level of recreation and open space opportunities, and
- Providing library services.

A town master plan needs to carefully consider the existing and potential impacts of land use decisions and economic and population growth on town services. This not only makes practical sense -- to be sure that there are adequate services as the town grows -- but it is also the basis of good town financial management. By comparing future land use and population changes with town resources, the town can better anticipate and prepare for future changes in municipal services and capital budget expenditures. RSA 674:5 contemplates the involvement of Planning Boards to ensure that there is a careful consideration given for master plan issues in the development of capital improvement plans.

Police

The Town of Sandwich has a small police force of two (2) full-time officers housed in a single building just north Town Hall.

The Station

The Police Department building is a 724 square foot wood frame structure on a 0.46 acre lot, and was built in 1950 as a doctor's office. It is heated by oil for a cost of about \$1,000 per year. Based on the July, 2006 *Sandwich Building Assessment Report*, the building is in fair to good condition and is worth about \$100,000. The 2009 assessed value is \$126,400. The roof and the windows were generally in good repair, although the plumbing and electrical were in poor condition, with upgrades needed. The building is not ADA compliant, which is an immediate

issue as the department prosecutor is handicapped. There is a need of more space for evidence, property, equipment and records. The Report recommended that the building be rebuilt or relocated within 5-10 years. Parking is adequate, with space for at least four cars.

Personnel and Procedures

There are two (2) full-time police personnel and three (3) part-time personnel. There are also three (3) part-time support staff, including an administrative assistant. The full and part-time officers cover 88 scheduled hours of duty per week. The full-time officers are scheduled for on-call duty after their normal work week, and are subject to re-call at anytime. The full and part-time officers partake in annual mandatory training for use of force, civil liability, firearms, taser, OC spray and baton. The officers also partake in bi-annual training for driving and first aid/CPR, and attend additional in-service training to fulfill the training mandates on their certifications by the NH Police Standards and Training Council. The police department is also in compliance with the U.S. Department of Homeland Security, and is eligible to apply for federal grants as all personnel have attended SLATT (State and Local Anti-Terrorism Training) and NIMS (National Incident Management System) training.

The Sandwich Police Department receives its communications and dispatch support through the NH State Police. Dispatch services are provided through the dispatch center at the barracks in Tamworth, from 7:00 a.m. until 11:00 p.m. Dispatch services are then forwarded to NH State Police Headquarters in Concord for the period of 11:00 p.m. to 7:00 a.m. The police department also receives supplemental patrol support during off-duty/ on-call hours from troopers stationed at the Tamworth barracks. The NH State Police also provide special service equipment and personnel as needed. Examples of this would be Traffic Accident Reconstruction, Canine Unit, SWAT, Aviation (Helicopter) and Bomb Unit.

Other supplemental services the police department receives are:

- NESPIN (New England State Police Information Network), which provides investigative technical support, equipment, and allows the department access to national and regional databases for investigative purposes.
- ACIM (A Child is Missing Alert Program), a service provided free of charge to law enforcement. This alert system may be activated when a child or a disabled or elderly person is missing. This is not an Amber Alert, but may be activated prior to an Amber Alert and works in cooperation with an Amber Alert.

Since there is not an area for holding prisoners, any arrests need to be transferred to the Moultonborough Police Department, the State Police barracks or the County Jail. All DWI arrests must go off site as the department is not equipped with a breathalyzer machine. All secure detentions of juveniles must also go off site as the department is not approved through the State for this capability.

Equipment

The police department has two vehicles—a 2010 Ford Expedition (sport utility vehicle) and a 2008 Ford Expedition, as shown in Figure 9-1. Police vehicles are acquired with town funds, normally on a 4-year cycle.

Figure 9-1: Police Department Major Equipment Inventory

Year / Make	Type	Condition/ Value**	Replacement Scheduled / Cost
2010 Ford	SUV	Good/\$40,000	2014/\$40,000
2008 Ford	SUV	Good/\$40,000	2012/\$39,000

Source: Sandwich Police Department, May 2010; Town Hall records, June 2010

***Value based on town's property/liability insurer's determination of replacement value.*

In addition to the two vehicles, the department also has two traffic radar units and a mobile radar display unit that was purchased through the NH Highway Traffic Safety Department with matching funds. The department has two in-car camera systems, purchased through the NH Highway Traffic Safety Department with matching funds. Larger hand held equipment includes:

- 2 12-gauge shotguns,
- 2 M-16 rifles
- 2 Tasers, and
- 2 AED's (Automatic Electronic Defibrulators)

Community Programs

The Sandwich Police Department engages in a number of community outreach programs. These include:

- D.A.R.E. program,
- Ice Cream Ticket and Bicycle/Helmet Safety Programs,
- Self-defense program for women,
- Toy Drive in cooperation with the North Sandwich Store,
- Driver Education,
- Bicycle/Skateboard area,
- Winter coat drive in cooperation with Red Mountain Masonic Lodge, and
- Merit Badge Counselors for the Boy Scouts of America.

Recent Police Activity

In 2006 the police department responded to 1,821 incidents. By 2009 this number had increased to 2,166 or 15.9% more. See Figure 9-2 below. The majority of calls during this period can be

categorized as Calls for Service, which includes assistance to motorists and citizens and assistance to fire and rescue. In all, there are 13 subcategories of Call for Service. Of the 1002 Calls for Service in 2009, the largest category was Miscellaneous. This category is used if a call does not fall within any of the other categories and may involve such activities as a missing person, drowning, fire, noise complaint or weapons violation. This category is followed by assistance to motorists and citizens at 137 and assistance to fire and rescue at 52. During this same 4-year period Criminal Offenses, with 17 total subcategories, ranged from 71 to 106 in a given year. The two highest categories for offenses were theft and criminal mischief; in 2009 these were 25 and 21 incidents, respectively.

Figure 9-2: Police Call Activity, 2006-2009

Offense/Activity by Case	2006	2007	2008	2009
Criminal Offenses	97	71	106	85
Calls for Service	866	1026	883	1002
Arrests	28	20	18	36
Motor Vehicle Accidents	36	47	29	31
Motor Vehicle Enforcement	354	310	227	136
Total Cases	1381	1474	1263	1290
Total Offenses**	1821	1903	1837	2166

Source: Sandwich Police Department, May 2010

***Note: An individual case may have more than one offense. Thus the total offenses will be more than the number of cases.*

Although the overall number of individual police responses has increased during the past several years, most of this has been in the Calls for Service category, whereas Criminal Offenses and Arrests have not increased significantly.

Budget

Over the past five years (2005-2009) annual department expenditures have increased from of \$170,091 to \$191,818 or an increase of 13%. Most of the expenditures and increases during this period were for personnel costs (salaries and personnel benefits) as shown in Figure 9-3. In 2008 these personnel costs amounted to \$147,393 or 80% of the expenditures. In 2009 they amounted to \$159,100, or 83% of the expenditures. The 2008 and 2009 expenditures by major category are shown in Figure 9-3.

Figure 9-3. Police Department Expenditures, 2008-2009

Type	2008	2009
Salaries	\$117,463	\$123,297
Personnel Benefits (health insurance, life insurance, etc.)	\$30,030	\$35,807
Workers Compensation	\$2,996	\$2,919
Communications	\$4,765	\$4,831
Computer Expense	\$1,500	\$1,510
Gasoline for equipment	\$12,403	\$8,859
Vehicle Repairs	\$2,490	\$2,554
Equipment	\$421	\$1,644
Training	\$3,188	\$2,487
Utilities (Heat, Electricity)	\$2,544	\$2,520
Law Enforcement Liability	\$2,384	\$1,747
Other	\$3,680	\$3,643
Total	\$183,864	\$191,818

Source: Town Reports, 2008, 2009

Issues and Needs

The Police Department Building was not built to serve the purpose of a police station. At present, it lacks ADA accessibility and adequate interview or storage space, especially secure storage space for evidence. While the structure itself appears to be in reasonable condition, the space is no longer adequate for the demands of this department. Electrical and plumbing systems need to be upgraded. Provision of police vehicles is incorporated into the Capital Improvement Plan, which also proposes a rebuilding of the Police Station on the existing site in 2016. As the population of Sandwich grows and the call demand of the police department continues to rise, the need for more full-time personnel will have to be addressed within the next ten years. There may also be an opportunity to share services with other local or regional agencies.

Fire and Medical Services.

The Town of Sandwich currently has an all volunteer Fire Department. There are two fire stations—the Central Station in Center Sandwich at 23 Wentworth Hill Road and the Whiteface Station at 354 Whiteface Road. A third building—the Old Fire Station—is presently used only for storage.

Central Fire Station

The Central Fire Station was built in 1972 and is approximately 6,516 sf on a 0.71 acre lot. It is heated by oil for a cost of about \$4,000 per year. Based on the July, 2006 *Sandwich Building Assessment Report*, the building is in fair to good condition. The 2009 assessed value is \$325,110. The roof was stated to be in need of repair and the windows were noted to need upgrades. The

major issue for the department is room for storage of large equipment. The Town has reached agreement with the Sandwich Fair Association to procure a small strip of land for future expansion of the station to add an additional bay.

Whiteface Station

The Whiteface Fire Station was built in 1971 and is approximately 1,443 sq. ft on a 0.50 acre lot. It is heated by oil for a cost of about \$4,000 per year. Based on the July, 2006 *Sandwich Building Assessment Report*, the building is in fair to good condition. The 2009 assessed value is \$109,300. The roof was in need of repair and the windows were noted to need upgrades. Some roof repair work has since been completed, and a local citizen contributed labor to re-side the front and south sides of the building.

Old Fire Station

The Old Fire Station, located at 11 Church Street, was built in 1900 and is approximately 3,273 sf on a 0.31 acre lot. At present, the building is only used for storage and does not require any heating or electricity. Based on the July, 2006 *Sandwich Building Assessment Report* the building is in generally poor condition. The 2009 assessed value was \$109,300. While the roof is in good condition, the remaining building features are in poor condition. The building report noted that if additional space needs are required in the future, this should be done through new construction.

Personnel

There are no full-time fire personnel. There are 24 volunteer firemen. In the long term it may be difficult to attract volunteers, forcing the town to look at other alternatives. The Department's Rescue Section currently consists of three Emergency Medical Technicians (EMT) – Basic, five EMT – Intermediate and other first responders. The most common call out is for home medical emergencies, often cardiac related, but can range from auto and motorcycle accidents to carrying injured climbers off mountains. EMTs, in particular, must dedicate a significant amount of time to initial and continuing training to obtain and maintain their certifications.

In addition to the Department's resources, the Town is also supported by Stewart's Ambulance Service through a multi-town contract in which costs are shared based on the individual town's percentage of use.

Equipment

The fire department has six vehicles—four devoted to fire fighting, one to rescue and one command vehicle. The newest piece of equipment is a 2004 KME engine that is currently worth \$258,619. The next engine to be replaced is the 1980 Mack in 2013; it is currently worth \$50,000. The current fire equipment is listed in Figure 9-4.

Figure 9-4: Fire Department Equipment Inventory

Year / Make	Type	Condition/Value* *	Replacement Scheduled / Cost
2004 KME	Engine	Good/\$425,000	2034/TBD
2000 Ford F550	Rescue	Good/\$100,000	2016/\$90,000
1980 Mack	Engine	Fair/\$350,000	2013/\$350,000
1994 Mack	Engine	Fair/\$350,000	2021/\$350,000
1997 Mack	Engine	Fair/\$350,000	2027/\$300,000
Ford F-350	Pickup	Unknown	TBD

Source: Sandwich Fire Department, May 2010; Town Hall records, June 2010

**Value based on town's property/liability insurer's determination of replacement value.

Fire Ponds

There are more than 20 fire ponds located within the Town and used by the Fire Department as a source of water when fighting fires. The ponds are located on private property, and annual maintenance is performed by the town to keep the ponds open and hydrants in proper working order. New ponds may need to be constructed in the future as the population increases.

Fire Call Activity

As shown in Figure 9.5, in 2005 the fire department responded to 53 structural fires, 10 brush fires and 78 medical assistance calls. In 2009 the department responded to 48 structure fires, only 6 brush fires and 113 medical assistance calls.

Figure 9-5: Fire Call Activity

Type	2005	2009
Structure	53	48
Brush	10	6
Medical Aid/Other	78	113
Total	141	167

Source: Sandwich Fire Department, May 2010

Budget

Over the past five years the department budget has increased from a total of \$94, 411 to \$117, 622 or an approximately 24% increase. Most of the expenditures and increases during this period were for member reimbursements and personnel costs. In 2008 these personnel costs amounted to \$46,111 or 42% of the total expenditures. The second highest expense was for Dues/Mutual Aid at \$17,290. In 2009 personnel costs amounted to \$45,336, or 39% of the expenditures. The 2008 and 2009 expenditures by major category are shown in Figure 9-6.

Figure 9-6. Fire Department Expenditures, 2008-2009

Type	2008	2009
Reimbursement to Dept. Members	\$40,000	\$40,000
Personnel Costs (FICA, Medicare, Workers Comp.)	\$6,111	\$5,336
Telephone/Communications	\$1,866	\$1,854
Dues/Mutual Aid	\$17,290	\$18,088
Supplies (General/Office)	\$4,287	\$2,335
Training	\$1,457	\$4,196
Gas for equipment	\$2,071	\$1,400
Vehicle Repair	\$14,501	\$14,234
Utilities(Heat/Electricity)	\$9,182	\$11,650
Building repair/maintenance	\$1,062	\$1,029
Vehicle/Property Insurance	\$1,551	\$3,044
Equipment Purchase	\$8,102	\$9,952
Other	\$2,019	\$4,504
Total	\$109,499	\$117,622

Source: Town Reports, 2008, 2009

Issues and Needs

The Central Fire Station is in reasonably good repair. The roof is in fair condition and might need to be repaired/replaced in the near future. The electrical system could be upgraded. The major issue for the department is the need for adequate space versus limited room (lot too small) for expansion. However, the town has reached agreement with the Fair Association to add a small strip of land to one side of the lot that would allow expanding the building. The Whiteface building is in fair to good condition. The roof is in need of repair and the windows need upgrades. It would appear that the storage function of the Old Fire Station is adequate as long as the building is maintained. Its value to the department and the town needs to be evaluated with respect to the long-term storage needs of the town. Large equipment replacement has been programmed into the town's Capital Improvement Plan.

Although the town has been fortunate in the dedication and availability of volunteer firefighters and EMT's this may not remain the case in the long term, especially as the population increases.

The Town should consider developing a long range plan for the provision of fire-fighting and emergency medical services, addressing the high costs facing the town in the medium term, the availability of volunteers and the option of sharing services with other towns.

Highway/Public Works

The Sandwich Highway Department has one major building (the highway garage) and several smaller buildings, located at 602 North Sandwich Road.

The Highway Garage

The Highway Garage is an approximately 4,700 sf steel frame structure on a masonry wall, on a 3.6 acre lot and was built in 1970. It is heated by oil at a cost of about \$4,500 per year. Based on the July, 2006 *Sandwich Building Assessment Report*, the building is in fair to poor condition and had an appraised value of \$290,000. The 2009 assessed value is \$200,300. The roof is in poor condition and needs to be replaced. The insulation, plumbing and electrical are in fair condition, with some upgrades needed. The building is ADA compliant, but that is not normally a factor for this location. The Report did not recommend that the building be rebuilt, but stated it would not be adequate beyond the next 5-10 years.

Other Structures

- Storage shed—600 sf and constructed in 2009 for covered storage of sand and salt
- Three-sided pole shed—constructed in 1970's for storage
- Open structure rack with roof for light equipment storage.

Personnel

There are six (6) full-time highway personnel and no part time personnel. The director of this department is the Road Agent. Major projects, such as large-scale road repaving, are contracted out to commercial companies.

Equipment

The highway department has numerous vehicles and major pieces of equipment. There are five (5) dump trucks that also serve as plow trucks. There is a single plow truck that will not be replaced when it goes out of service, since it only serves one function. The department also has a grader, pick-up truck, backhoe, bucket loader and chipper. See **Figure 9-7** for a full listing of the major highway equipment.

Figure 9-7: Highway Department Major Equipment Inventory

Year / Make	Type	Condition/ Value	Replacement Scheduled / Cost
2010 International	6 Wheel Dump Truck	Excellent/\$70,000	2025/\$143,000
2004 International 7400	6 Wheel Dump Truck	Good/\$45,762	2014/\$143,000
2003 International 7400	6 Wheel Dump Truck	Good/\$71,262	2013/\$143,000
1990 International	6 Wheel Truck	Poor	Est. \$10,000
2008 Ford F577	6 Wheel Dump Truck	Good/\$70,000	2015/\$60,000
1997 John Deere	Grader	Good/\$156,787	2017/\$250,000
2008 Ford F350	Pick-up Truck	Good/\$25,900	2013/\$24,000
2005 Case 580SM	Back Hoe	Good/\$90,600	2016/\$100,000
1999 John Deere 544H	Bucket Loader	Fair/\$98,950	2012/\$200,000

Source: Sandwich Highway Department, May 2010; Town Hall records, June 2010

***Value based on town's property/liability insurer's determination of replacement value.*

Other lighter equipment includes:

- Six (6) 1-way plow blades—two new; four old,
- One (1) light weight plow wing,
- Two (2) heavy duty plow wings,
- Two (2) Fisher plow blades for lighter duty trucks,
- One (1) government surplus generator—should be replaced,
- Large street broom, and
- Two (2) York grading rakes—one very old (40 years) and one 2-3 years old.

Recent Major Highway Activity

Aside from seasonal annual work programs, there have been two major highway projects in the last several years: 1.) the 2009 upgrade of NH Route 113 by the state for approximately two miles from the North Sandwich Store to Angier Hill, and 2.) the 2007 and 2010 upgrades of Maple Ridge Road. Additional discussion of roadways and roadway activity is found in the Transportation Chapter of this Master Plan.

Budget

Over the past five years (2005-2009) annual department expenditures have gone from a total of \$388,114 to \$537,233, an increase of 38%. Most of the expenditures and increases during this period, like other town departments, were for personnel costs (salaries and personnel benefits). In 2008 these amounted to 61% of total expenditures. In 2009 personnel costs amounted to 64% of the expenditures. The 2008 and 2009 expenditures by major category are shown in Figure 9-8.

Figure 9-8. Highway Department Expenditures, 2008-2009

Type	2008	2009
Salaries/Personnel Benefits	\$337,188	\$344,272
Workers Compensation	\$7,116	\$6,255
Outside Contractors	\$3,367	\$4,510
Building Repair & Maintenance	\$2,026	\$941
Uniforms	\$2,338	\$278
Culverts	\$3,610	\$5,608
Aggregate	\$34,791	\$43,366
Sand & Salt	\$37,159	\$16,068
Tar	\$2,583	\$8,120
Gas/Diesel Fuel for equipment	\$51,455	\$30,952
Roadside Mowing/Haz. Tree Removal	\$7,042	\$7,278
Utilities (Heat, Electricity)	\$6,940	\$6,795
Vehicle Repairs/Maintenance	\$47,385	\$49,983
Other	\$6,060	\$12,807
Total	\$549,260	\$537,233

Source: Town Reports, 2008, 2009

Issues and Needs

While the highway department facilities are adequate, the following issues may need to be addressed in the near future.

- New roof,
- New generator,
- Upgraded lighting and employee area,
- Vented room for welding operations,
- More secure equipment storage area that could also be used by other departments such as recreation and police.

Highway vehicles and large equipment are on a rotating replacement schedule, and are part of the long term capital improvements planning of the town. Consistent with this plan, a new dump truck with plow was purchased in 2010.

In 1999 the University of New Hampshire Civil Engineering Department undertook a Roadway System Management Study that evaluated all the local roads in Sandwich and proposed a long-term schedule for improvements. As funds allow, the department has undertaken annual upgrades to town roads based on the approach recommend in this report. Additional detail on this roadway system management process is found in the Transportation Chapter of this Master Plan.

Town Hall

The Town of Sandwich Town Hall, located at 8 Maple Street on a 0.22 acre lot, was constructed in 1915 and is National Historic Building. It houses the offices for town administration and town clerk functions.

Town Hall Building

The Town Hall is a two-story structure with 2,960 sf on each floor. It is a wood frame building on a concrete foundation with an appraised value of \$471,100. It is heated by oil at a cost of about \$4,000 per year. Based on the July, 2006 *Sandwich Building Assessment Report*, the building is in fair to good condition, except for the exterior paint which is in poor condition. The 2009 assessed value was \$489,100. The roof is in good condition, while the windows and insulation are in fair condition. The electrical system is in "ok" condition, but additional circuits could be added. The building is ADA compliant, but not to current standards. The Report did note that there was a continuing moisture problem. This situation has recently been addressed, allowing other major work to be undertaken—such as painting or siding. The Report did not recommend any major work, but did suggest some remodeling to provide more administrative and storage space, a vault for record storage and ADA update to gain access to the second floor.

In addition to the *Sandwich Building Assessment Report*, the town also established a Town Hall Building Committee in 2008 to determine the future needs of the building. The report of the Committee is detailed in the 2009 Town Report. In summary, the Committee explored the following issues:

- Upgrade of current phone system,
- Structural integrity through an engineering assessment, and
- Greater energy efficiency—heating, ventilating, lighting and window upgrades.

As part of the Committee's work a survey of Town Hall employees was also conducted, resulting in the following recommendations:

- The Town Hall should continue to function as the central governmental center of the community.
- The current workspaces and meeting room need to be enlarged and modernized (lighting, temperature control, phones, computer systems, storage).
- More storage space is required for long term records, maps, plans, etc.
- Consider having second meeting room, along with space for such functions as treasurer, building inspector, sewer, etc.
- ADA accessibility to the second floor must be added.

The 2009 Capital Improvement Plan has set aside funds for Town Hall major upgrades for the current year, as well as from 2012 through 2016.

Personnel and Usage

There are four (4) full-time positions housed in two first floor offices within the Town Hall--the Administrative Assistant to the Board of Selectmen, an Office Assistant and the Town Clerk and Assistant Town Clerk. The public meeting room is used by town boards/committees, such as the Board of Selectmen and Planning Board. This space is also used for voting. The second floor is used for community activities by groups that do not receive public money, since it is not ADA compliant.

Equipment

The Town Hall has no major equipment, but does have several computer systems and other office equipment. Wireless internet service is currently provided by a local vendor.

Budget

The Town Hall maintenance budget is modest, approximately \$20,000 per year, excluding any minor capital improvements. This figure does not include the salaries and benefits of the four (4) town personnel positions, but does include the custodial function. Over the past five years (2005-2009) annual expenditures remained just at or below this figure. The 2008 and 2009 expenditures by major category are shown in Figure 9-9.

Figure 9-9. Town Hall Expenditures, 2008-2009

Type	2008	2009
Salary and Benefits--Custodial	\$5,728	\$5,135
Utilities (heat, electricity)	\$6,163	\$7,385
Building Repair & Maintenance	\$2,608	\$2,095
Property Insurance & Liability	\$5,251	\$4,037
Supplies	\$434	\$356
Total	\$20,184	\$19,008

Source: Town Reports, 2008, 2009

Issues and Needs

Based on the Town Hall Committee's work and the survey of employees, the following issues and needs were identified:

- The Town Hall should continue to function as the central governmental center of the community.
- The current workspaces and meeting room need to be enlarged and modernized (lighting, temperature control, phones, computer systems, storage).

- More storage space such as a secure, fire-proof vault required for long term records, maps, plans, etc.
- Consider having second meeting room, along with space for such functions as treasurer, building inspector, sewer, etc.
- ADA-compliant accessibility to the second floor.
- Relocation of the fire escape to the south side of the building.
- Painting the exterior, begun in 2010.

Solid Waste

The Town of Sandwich Transfer Station is located off NH Route 113, west of Center Sandwich. It is reached via a long entry road, in poor condition, that ends in a constricted loop which contains the various facilities for disposal. It provides a location for disposing of both trash and recyclable materials.

Buildings/Compactors/Disposal

The Transfer Station has a trash compactor for household waste, as well as a container for single-stream recycled materials which include:

- Glass,
- Aluminum and tin cans,
- Plastic bottles and containers,
- Mixed paper, and
- Corrugated cardboard.

There are also several open ended buildings or storage piles for storage of other recycled materials including:

- Metal,
- Copper,
- White goods,
- Tires, and
- Construction debris.

There is a small wood frame structure that incorporates an office with limited seating. The only bathroom facility is a rented porta-potty. All the materials disposed of at the transfer station are picked up by haulers under agreement with the town, as follows:

- Household waste, single stream recycled materials and construction debris—Waste Management, Rochester,
- Metals and white goods—Northeast Resource Recovery (NERR), and
- Tires—NERR, Norridgewock, Maine.

A burn pile accommodates brush 5" or less in diameter. Electronic goods and fluorescent bulbs are accepted. There is also a so-called Swap Shop for books and other household goods. In 2009 the transfer station recycled 41 tons of scrap metal, 37 tons of glass, 65 tons of paper and one (1) ton of electronics.

Personnel

There are two (2) part-time positions and one seasonal position at the Transfer Station. On occasion, personnel from the Highway Department may provide assistance to move heavy materials or regrade the unpaved portion of the road/loop.

Budget

Over the past five years (2005-2009), annual department expenditures have gone from a total of \$94,245 to \$121,118, an increase of 29%. Most of the increases during this period can be attributed to personnel costs (salaries and personnel benefits). In 2008 these amounted to 42% of expenditures. In 2009 personnel costs amounted to 47% of expenditures. The single largest other expense was for trash hauling from the transfer station. The 2008 and 2009 expenditures by major category are shown in Figure 9-10.

Figure 9-10. Transfer Station Expenditures, 2008-2009

Type	2008	2009
Salaries	\$36,477	\$41,683
Personnel Benefits (health insurance, life insurance, etc.)	\$8,063	\$9,108
Workers Compensation	\$2,622	\$556
Electricity	\$811	\$892
Trash Removal	\$54,971	\$52,358
Toilet Rental	\$1,260	\$1,575
Other (Ins., uniforms, mileage, supplies, parts, equipment)	\$2,307	\$14,946
Total	\$106,511	\$121,118

Source: Town Reports, 2008, 2009

Issues and Needs

The Transfer Station has several issues, including a constricted traffic flow and limited storage areas. The traffic volume is much greater during the summer months when there are many seasonal residents and visitors. A long range plan is needed to better manage the Town's solid waste, either at the current site or in combination with adjacent towns.

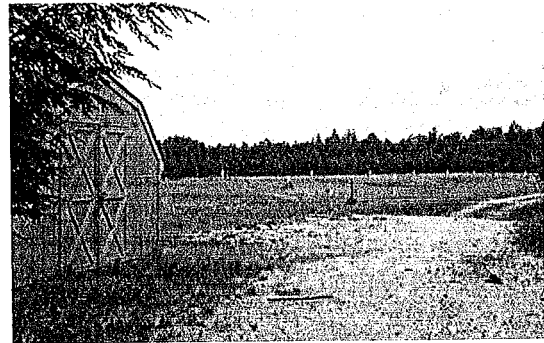
Sewer System

Operation

The Center Sandwich sewer system is a user-funded system that serves 74 properties in the village. The Sewer Commissioners manage the system under the auspices of the town, with part time support from town staff, paid for through the sewer budget.

Buildings & Equipment

The system utilizes two pumping stations with emergency generators (Main Street and Bean Road) to collect the sewage and deliver it to the settling tanks and leach fields. The locations of major system components are shown on the following page map, and include nearly 8,000 linear feet of pipe and four leach fields with a total area of 59,800 square feet.



Leach Fields

Programs

The Commission maintains a capital reserve fund for major system improvements. The portable generator that is used at the Main Street pump station will be made permanent in 2010 with the construction of a small equipment building. A study continues to be undertaken to identify and eliminate groundwater infiltration into the system that reduces overall system capacity.

Activity Measures

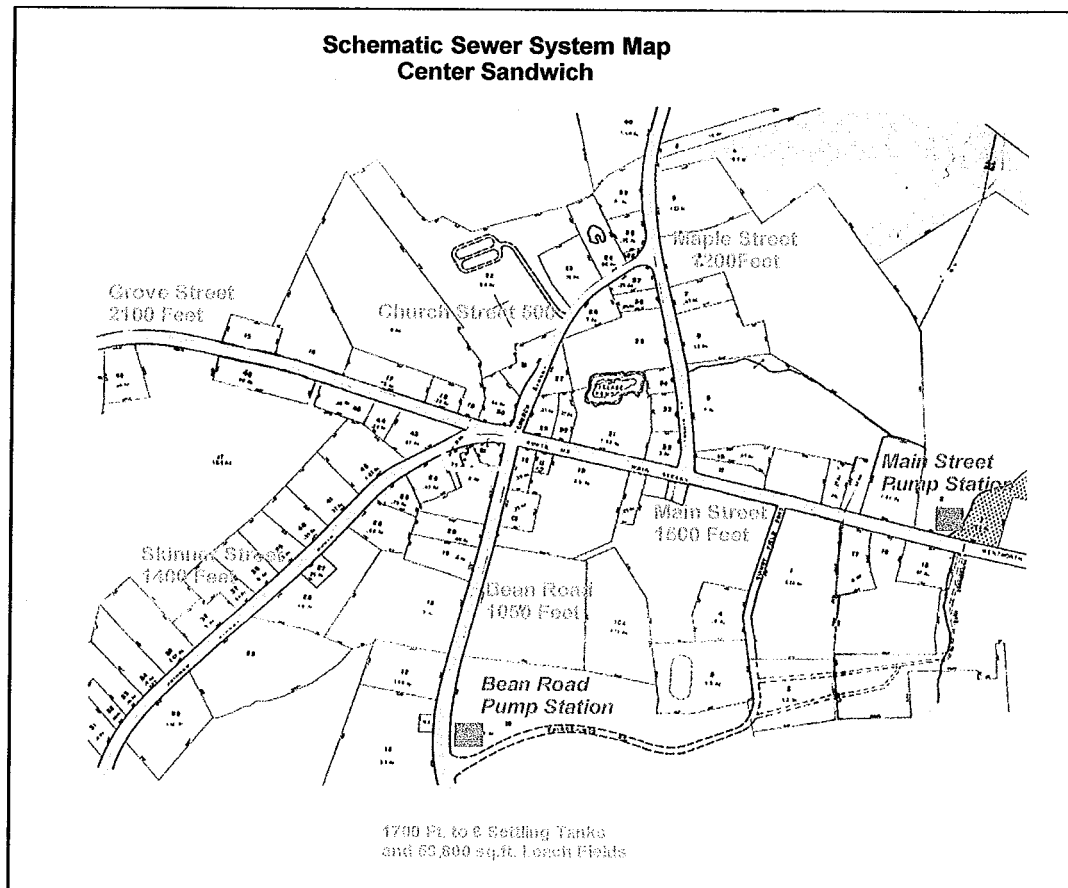
Figure 9-11. System Use by Land Use Type

Percentage of Use by Land Use Type					
System Use	2005	2006	2007	2008	2009
Residential	66%	66%	58%	56%	60%
Restaurant	17%	18%	22%	24%	20%
School	9%	10%	9%	11%	11%
Other Non-Res.	8%	7%	11%	9%	9%

Figure 9-12. Total System Use

Average System Usage				
Year	Average Gallons Per Day	Gallons Per Year	Est. Infiltration - GPD	Percent of Total Capacity*
1999	7104	2,592,842		
2000	6874	2,516,022		
2001	6543	2,388,371		
2002	7644	2,789,946		
2003	7054	2,574,810		
2004	6571	2,405,143	5,204	73%
2005	6839	2,496,085	8,283	94%
2006	5960	2,175,558	9,519	96%
2007	6124	2,235,090	6,539	79%
2008	5276	1,925,864	10,480	98%
2009	5833	2,128,869	8,059	86%

*Total Capacity is estimated at 16, 129 gallons per day



5-Year Budget

As shown in Figure 11, from 2005 to 2009 the budget has increased from \$15,160 to \$25,187 or an increase of 66%. The revenue stream has also increased by a similar amount, keeping pace with expenses. See Figure 13. The Sewer Department's account balance has also increased significantly—from \$128,356 to \$186,465.

Figure 9-13. Sewer System Financial Summary

Sewer Expenditures (actual)	Year				
	2005	2006	2007	2008	2009
Operator	4,146	4,764	5,373	5,762	6,849
Technical Maint. & Repair	428	114	138	271	1,161
Pumping	3,754	3,376	5,375	3,815	5,160
Improvements	639		273	5,125	2,000
Electricity	1,502	1,606	1,561	1,596	1,617
Administrative	456	801	356	847	814
Capital Reserve	4,500	4,500	4,500	5,000	5,500
Total	15,424	15,160	17,575	22,417	23,101

Revenue	17,149	17,348	17,499	20,662	25,187
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Account Balances					
Checking	13,171	19,373	520	306	1,054
Savings			14,221	10,950	10,087
Operation			15,921	12,706	13,579
Capital Reserve	115,185	108,225	135,229	147,691	161,746
Total Account Balances	128,356	127,598	165,892	171,654	186,465

Source: Town Reports, 2005-2009

Issues and Needs

The sewer system in Center Sandwich has been running near to its capacity for a number of years, apparently due to major infiltration of water, and relies on an overall modest usage by all subscribers. Any significant changes in the intensity of use by only a few homes that are connected to the system could push it beyond its design capacity. The system is now over twenty years old, and the major operating issues are:

- Reminding users to not place grease, oils and any other unacceptable materials in the system,
- Identifying and resolving ongoing system infiltration where natural groundwater seeps into the pipes and joints and uses up a great deal of the system's available capacity, and
- Continuing to rotate the use of its four leach fields, thereby helping to prolong the life of the system.

The major challenge that the sewer system faces is whether it should anticipate future change of use and growth in the village and plan for additional system capacity. This is a complicated issue since the system is self supporting by its users, who do not appear to be motivated to use their system fees to plan for future growth. If the Town of Sandwich desires to enable Center Sandwich, and/or other villages to grow, long range sewer system enhancement planning and implementation funding will need to be approved at Town Meeting. One approach to this challenge would be to require any new system users or expansion of existing users to pay a pro-rated connection fee that would recover the design and construction costs of added capacity. While this might seem like an unnecessary burden to place on new users, they would be avoiding the cost of design, permitting and construction of an independent septic system.

Library

Building

The Samuel H. Wentworth Library, a landmark in the region, was designed by architect J. Randolph Coolidge and dedicated in 1915. In 1971 a two-story 3,000 square foot addition was constructed to the rear of the original building.



The main level of the original building houses new books, audio books, videos, and DVDs, the children's section with an area for storytelling, and a reference and computer room with internet access designated specifically for reference use. The addition offers a periodical display area, adult fiction and non-fiction collections, and young adult fiction. The lower level of the addition has a separate entrance to the lower parking lot, and a multipurpose meeting room with a kitchenette.

Personnel

The Library staff consists of the Director, a Youth Services Librarian, three Library Assistants, three Pages, a maintenance person and a housekeeper, all of whom serve on a part-time basis. The library is also supported by many dedicated volunteers and the Friends of the Library, and is governed by an elected Board of Trustees.

Services

The Library is open Monday through Saturday, 35 hours per week, and provides the following services to the community:

- More than 17,000 circulating items, including books, periodicals, audio books, and movies in DVD and VHS format,
- Over 2,000 downloadable audio books,
- Access to the NH State Inter-Library Loan System,
- Five computers for public use, including internet access and printing capability,
- Wireless Internet throughout the building,
- Photocopy and fax services,
- Additional items for loan, including a telescope and a kilowatt meter, and
- Free passes to the Squam Lakes Science Center.

In collaboration with other community organizations, the Library offers a variety of programs that change over time to reflect community needs and interests. Past and present programs include:

- Children's story time,
- "Books Sandwiched In", a monthly book discussion open to the public,
- Poetry readings and writing workshops,

- Youth Lego club,
- Friday morning coffee service, and
- Craft workshops.
- Art and music receptions

Challenges

The Library is committed to patrons' changing needs: how libraries are being used, local changes in demographics, and rapid technological developments.

In response, the Library has increased the number of digital media (recorded books, downloadable audio books, movies in DVD and Blue Ray format) relative to the number of books and periodicals. The book collection is monitored to make sure that books which are no longer being checked out are replaced with books that match the interests of the community. Obsolete research books have been replaced with access to internet-based research tools. The library provides free broadband wireless internet access for patrons who bring their own laptops to the library, and the library has improved and upgraded its desktop computers for public use.

In response to local demographic factors, the Library has adapted to the increased internet and other usage of the library by the sizeable summer population. Since the year-around population is only approximately 1,400, even small changes in the numbers of children in particular age groups have a significant impact on the ability of the library to meet individual needs and interests. As a result, programs and activities for children and youth are continuously adjusted to match changes in interests of the school age population. Like communities everywhere, Sandwich is experiencing the need to meet the special requirements of an aging population, such as large print books and periodicals, larger computer screens, and physical-plant accessibility.

The rapid pace of change and development in technology is a challenge to correctly predict "what's next" beyond a 12-24 month timeframe. In spite of this, the Library has increased its broadband availability, is gradually phasing out VHS format movies and cassette format recorded books, and is planning to make devices such as electronic readers (Kindle, Nook, etc.) and mp3 players (for listening to downloadable audio books) available for loan to patrons.

Because of the large number of summer residents and visitors to Sandwich, summer utilization of the library is significantly higher. In 2009, there were over 1500 patrons and circulation increased to 21,555 – a 6.8% increase from the previous year. The growth in circulation is shown below.

Figure 9-14. Samuel Wentworth Library Circulation

	Year				
	1970	1980	1994	2000	2009
Total Circulation	14,019	15,263	19,744	21,265	21,555

Budget

Unlike most libraries in NH, approximately two thirds of the Library budget is funded by the Samuel H. Wentworth Trust and the remaining 35% is raised through the town budget. Following in Figure 9-15 are total funding and town contributions for recent years.

Figure 9-15. Five-Year Financial Summary

Year	Total Budget	Town Contribution
2005	\$99,640	\$31,600
2006	\$112,495	\$29,408
2007	\$108,122	\$37,913
2008	\$123,459	\$37,800
2009	\$117,961	\$40,604
2010	\$118,443	\$45,344

Source: Town Reports, Library Staff

Issues and Needs

As a result of the challenges the library is facing, the following short term, mid range, and long term goals have been identified:

Short term goals: 1 – 3 years:

- Web-based circulation software
- Lighting improvements
- Meeting-room improvements
- Safety upgrades (ongoing)
- Electrical system upgrade, including increased number of outlets for patrons to plug in laptops
- Hardware for loan to patrons, such as portable DVD players, mp3 players, electronic readers, etc.

Mid range goals: 3 – 5 years:

- Reconfiguration of the circulation desk and staff work space
- Restoration of original historic vaulted ceiling (including installation of ceiling fans, period lighting, insulation)

Long range goals: 5 – 7 years:

- Physical-plant accessibility in accordance with the Americans with Disabilities Act requirements

Sandwich Central School

Building

The Sandwich Central School, located at 28 Squam Lake Road, was built by the town in 1950 and operated by the Sandwich School District until 1963, when it was annexed by the Inter-Lakes School District. The auditorium and cafeteria addition was completed in 1990. The present building configuration includes 7 classrooms, 1 resource room, 1 cafeteria/auditorium/gymnasium, a library and a central office.

Personnel

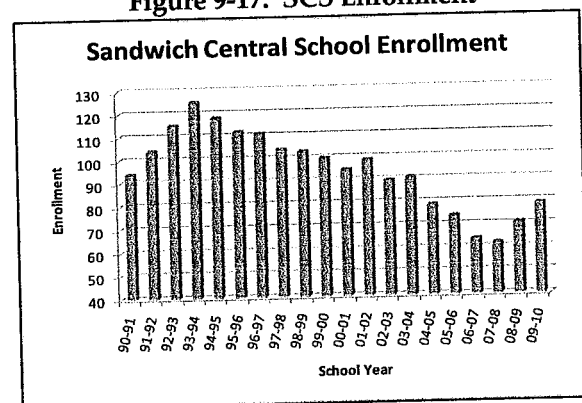
One of the major assets that the Central School derives from being a part of a considerably larger school district is its access to a much larger pool of staff resources available from throughout the district. The school has access to a wide variety of specialists, training opportunities and shared use of District administrative functions that make the operation of Sandwich Central School very efficient and effective.

Figure 9-16. Sandwich Central School Staffing 2009-10 School Years

Teachers	7.55
Administrator	0.80
Spec. Ed./ Paraprofessional	2.00
Library Assistant	0.48
Custodian	1.00
Secretary	1.00
Total	12.83

Source: School Administrator, 2010

Figure 9-17. SCS Enrollment



Enrollment

Sandwich Central School enrollment has fluctuated considerably since it became part of the Inter-Lakes School District. In the 1970's enrollments were as low as 61, and rose to a high in 1993-4 of 125, which was 25 above its design capacity of 100 students. See Figure 9-18. Since 1993-4 enrollment tapered off to a low of 62 in the '07-'08 school year. Total enrollment has increased in the past two school years to the '09-'10 year figure of 79. The enrollment for the 2010-11 school year is anticipated to be about 85 students. A number of children in Sandwich are home-schooled and a few attend private schools.

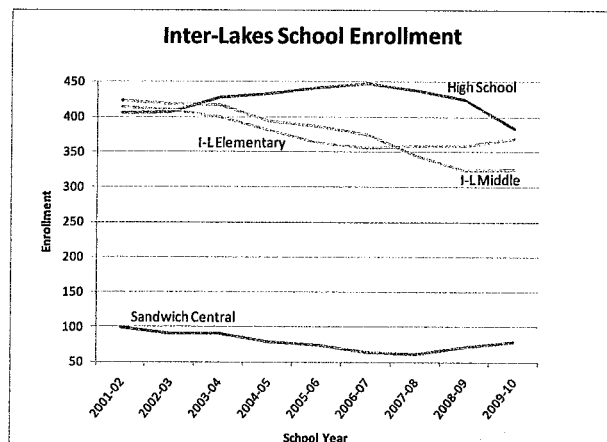


Figure 9-18. Inter-Lakes School Enrollment

Comparing the Central School enrollment to that of the entire District, it appears that elementary enrollments bottomed out several years ago and are now beginning to increase. The middle school figures are still flat, but should begin to rise as the larger class sizes from the elementary grades graduate into the middle school. While the high school enrollments are still in a declining posture, those too should bottom out and then show increases as the elementary and middle school students progress into the upper grades.

This trend in fluctuating school enrollments is not unique to Sandwich or the Inter-Lakes District. As one might expect, the regional and state population increases (discussed in the Demographics Chapter) brought increased school enrollments that began to taper off in the late 1990's and early 2000's. See **Figure 9-20**. Even with continued population growth in the

state and lakes region, the half-century trend toward smaller household size now appears to be eclipsing the in-migration patterns that have influenced the state for the past several decades. See **Figure 9-21**. When the 2010 U. S. Census figures are released, it will be instructive to see if this pattern continues.

Educational Program

In response to the declining elementary school enrollments throughout the school district, the School Board charged a District Elementary Enrollment Committee to study how to "best manage and staff our elementary schools with respect to student needs, concerns of the three communities, and the financial resources of the District?" The results of their efforts

Figure 9-19. NH Households

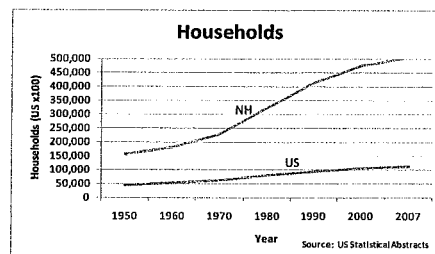


Figure 9-20. NH School Enrollment

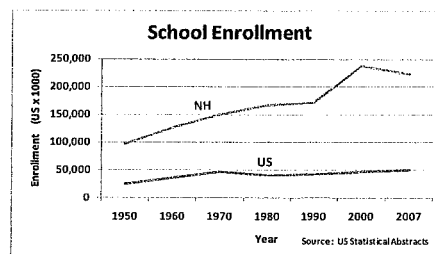
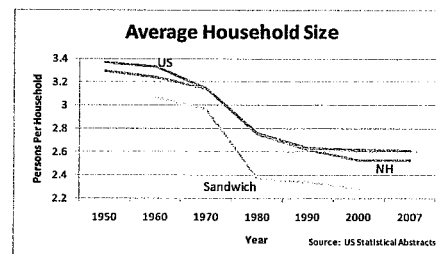


Figure 9-21. Household Size



were documented in a November, 2005 final report¹ in which they recommended that a “multi-age philosophy” be adopted to provide a more flexible, consistent educational structure from year to year. The approach provides for merging students in grades k-1, 2-3 and 4-5, leaving grade 6 as a stand-alone class to better prepare them for the transition to the middle school.

According to the SCS Principal, this approach has achieved its intended results of making more efficient use of staff resources and providing the students with greater learning continuity. It should also be noted that under this approach students at the Central School have consistently surpassed state standardized test score averages. To date, the school district has supported the change, even with the need to add a second teaching position as a larger class/group needed to be divided in two, rather than breaking them into individual grades. If the approach continues, it should provide the framework to maintain the viability of the Sandwich Central School for many years to come.

Six-Year Costs

As shown in Figure 9-22, the local education tax had a big increase in 2004, but since has dropped and then increased only incrementally from year-to-year. The state education tax was highest in 2003, although the tax rate has been relatively stable since then

Figure 9-22. Local and State Tax Summary, 2003-2008

Sandwich School Taxes						
Year	2003	2004	2005	2006	2007	2008
Local Education Tax for Schools	\$1,199,386	\$1,550,620	\$1,402,540	\$1,362,877	\$1,382,222	\$1,389,244
Local Education Tax Rate	\$6.20	\$4.09	\$3.74	\$3.62	\$3.66	\$3.68
State Education Tax	\$1,134,104	\$977,655	\$899,120	\$1,008,750	\$1,054,750	\$927,620
State Education Tax Rate	\$5.92	\$2.62	\$2.41	\$2.73	\$2.84	\$2.50

Source: NH Department of Education, 2010

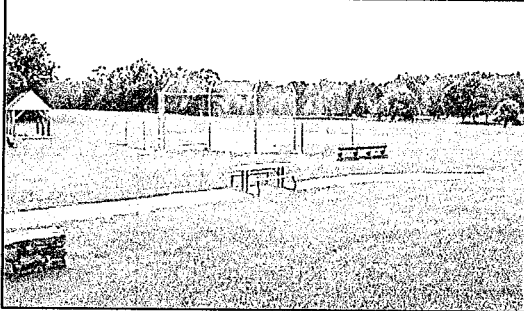
Issues and Needs

Because Sandwich places a high value on the continued viability of the Sandwich Central School, the Town needs to closely monitor how it is managed, operated and maintained by the Inter-Lakes School Board. The 14-year trend of incremental decline in Sandwich Central School enrollments from 1994 to 2008 appears to have been reversed in the last two years. This recent upswing in enrollments, combined with the multi-age curriculum approach, suggests that the Central School’s future operations are fairly secure, at least in the near term. Because of the school’s small size in relation to the rest of the Inter-Lakes facilities, the Town of Sandwich will need to continue its advocacy for the needs to the school in the long term. Additionally, it is imperative to manage costs so that operating SCS does not become cost-prohibitive.

¹ “Final Report of the District Elementary Enrollment Committee,” Inter-Lakes School District (Meridith, NH, 2005)

Parks and Recreation

Buildings



In 2009, the Parks and Recreation Department moved out of their 484 square foot building behind the Center Sandwich Post Office due to serious building deficiencies identified in the 2006 Building



Assessment Committee Report. The department's offices are currently housed in the basement of the Post Office Building. While this space is meeting a short term need, it does not satisfy the overall space and program needs of the community. The stand-alone Parks & Recreation building is therefore being renovated in 2011 to accommodate both storage and office space. The Post Office basement will continue to be used, but as a recreation / activities space.

Recreation Facilities

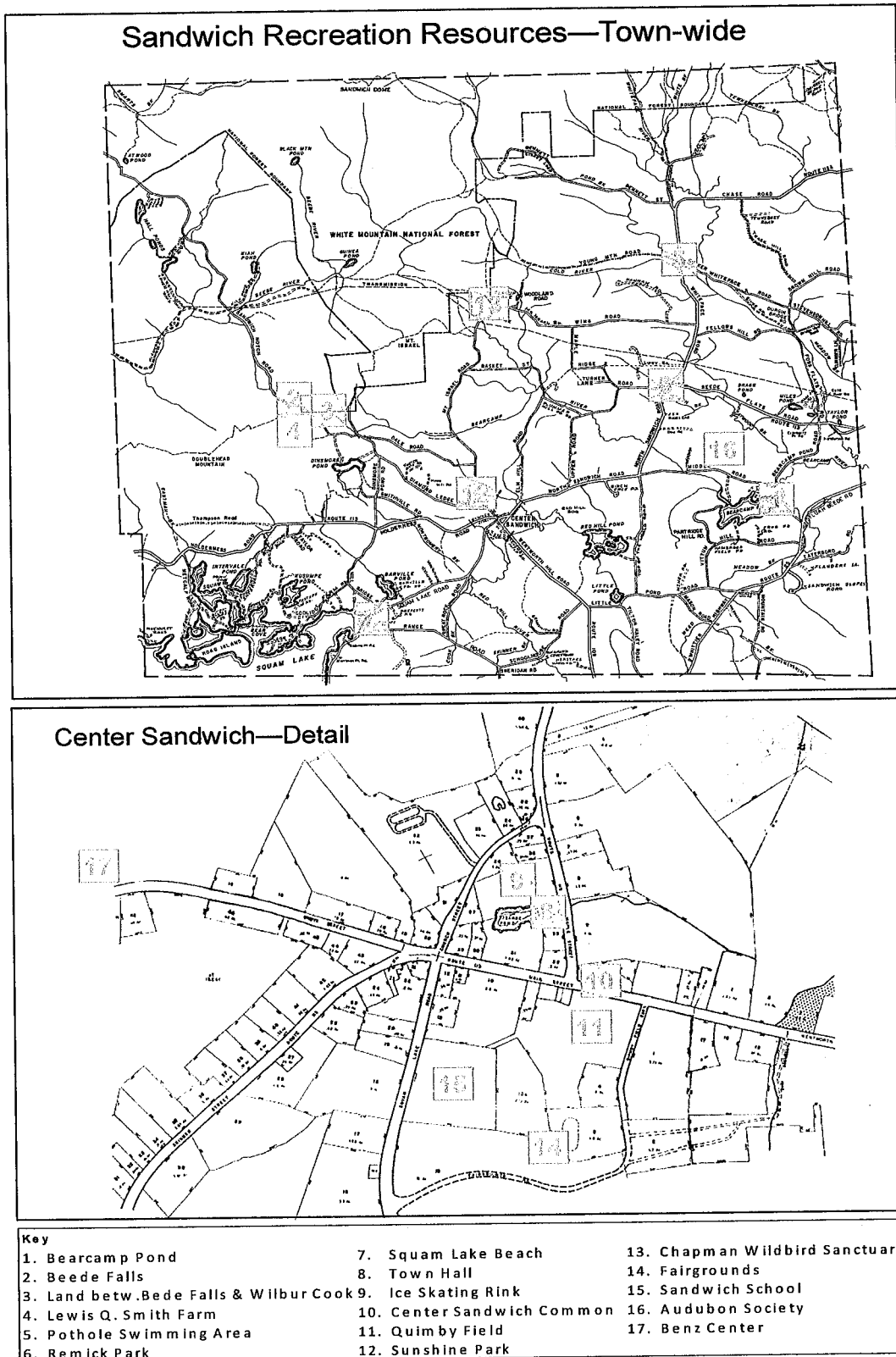
Figure 9-23 provides a listing of the current town recreation facilities and Figure 9-24 provides a map with their locations.

Figure 9-23. Sandwich Recreation Facilities

Map #	Facility Name	Use	Acreage	Tax Map/Lot	Ownership
1	Bearcamp Pond	Swimming, boat access	1.50	R2, lot 19	Town
2	Beede's Falls	Conservation	30.00	R18, lot 5	Town
3	Land between Beede's Falls & Wilbur Cook	Conservation	16.00	R18, lot 4	Town
4	Lewis Q. Smith Farm	Conservation	136.00	R 18, lot 6	Town
5	Pothole Swimming Area	Swimming	1.00	R7, lot 14	Town
6	Remick Park	Playground, Horseshoes, Badminton/Volleyball	1.00	R8, lot 12A	Town
7	Squam Lake Beach	Swimming	1.41	R20, lot 10	Town
8	Town Hall	Private Yoga Classes	0.22	U1, lot 34	Town
9	Ice Skating Rink	Skating	1.80	U1, lot 35	Quimby Trust
10	Open Space adjacent to Sandwich Home Industries	Conservation	0.38	U1, lot 11	Quimby Trust
11	Quimby Field (includes post office)	Baseball, softball, soccer, tennis	4.75	U2, lot 5	Quimby Trust
12	Sunshine Park	Conservation	19.00	R12, lot 51	Quimby Trust
13	Chapman Wildbird Sanctuary	Conservation	105.00	R14, lot 13	Private trust
14	Fairgrounds	Fair and X-country skiing	33.61	multiple lots	Private Trust
15	Sandwich School	Basketball	3.69	U2, lot 14	Inter-Lakes School District
16	Audubon Society Land	Conservation	279.00	R2 & R3	Audubon Society
17	Benz Center	Community Center	1.20	R12, lot 62	Sandwich Sr. Resources Inc.
	Sandwich Sidehillers	Winter trails			Sandwich Sidehillers

Source: Tax Maps, Town Assessor Records, 2010

Figure 9-24. Recreation Resources Map



With projections to grow to about 1800 people in the next twenty years, it is appropriate to look at national recreation standards to see if Sandwich has adequate



facilities to meet its current and future needs. The National Recreation and Park Association (NRPA) has established guidelines for community recreation needs. These guidelines need to be informed by actual local needs and activity usage that better relate to the interests in different activities in the community. Figure 9-25 shows some of the major activity

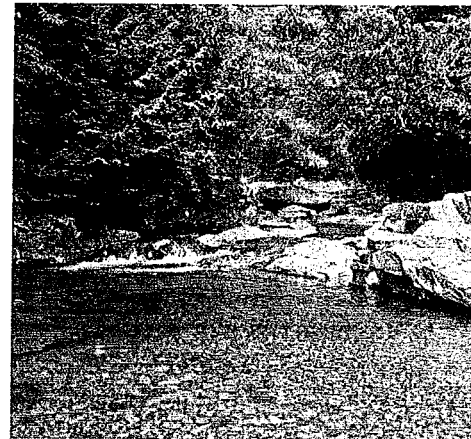


Figure 9-25. NRPA Standards

National Recreation and Park Association Standards and Guidelines				
Activity	Recommended Size & Dimensions	Recommended Orientation	Number of Units per Population	Service Radius
Basketball	50' x 84-94'	Long axis north-south	1 per 5,000	.25 to .5 mile
Ice Hockey	85' x 200'	Long axis north-south if outdoors	Outdoor- depends on climate	30 -60 min. travel time
Tennis	36' x 78'	Long axis north-south	1 court per 2,000	.25 to .5 mile
Volleyball	30' x 60'	Long axis north-south	1 per 5,000	.25 to .5 mile
Baseball - official	Baseline 90' Foul lines min. 320 ft. Center field 400'+	Line from home plate through pitchers mound runs east-north-east	1 per 5,000	.25 to .5 mile
Baseball - little league	Baseline 60' Foul lines 200' Center field 200-250'	Line from home plate through pitchers mound runs east-north-east	1 per 5,000	.25 to .5 mile
Football	160' x 360'	Fall Season: Long axis northwest to southwest. Longer season: north-south	1 per 20,000	15-30 min. travel time
Soccer	195-225' x 330-360'	Fall Season: Long axis northwest to southwest. Longer season: north-south	1 per 10,000	1-2 miles
Softball	Baseline 60' Foul lines 225'	Same as baseball	1 per 5,000 if also used for youth baseball	.25 to .5 mile
Trails		Well defined trail head. 40 hikers/day/mile	1 system per region	
Beaches	50 sq. ft. of land and 50 sq. ft. of water per user. 3-4 acres of land per acre of beach	N/A	N/A	N/A

Source: NRPA

Comparing the NRPA standards to the town's current recreation resources indicates that Sandwich is well served with recreation facilities, particularly given the small size of the community.

As a further indicator of recreation needs, the Master Plan Community Survey asked several questions about the quality of recreation services and facilities. Overall, 83% of the survey respondents felt that the quality of parks & recreation services was "excellent" or "fair." Suggestions for improved services and facilities including:

- Improve programs and grounds (13%),
- Improve access and parking facilities at beaches; Pothole and boat launch (5%),
- Increase parking for trailheads, beaches, etc. (8%),
- New recreation programs that should be considered:
 - More adult/senior activities (17%),
 - Teen activities/young adults/after school (9%),and

One of the final Survey questions highlighted that 5% of the respondents felt that recreation activities were one of most desirable aspects of living in Sandwich.

Personnel

A new Parks and Recreation Director was hired in the summer of 2010. During the summer months, lifeguards are hired to ensure safety at the Squam Lake Beach. In 2009 the town was unable to find enough qualified lifeguards, which permitted the beach to be open only five days per week. In 2010 however they were able to again provide seven day coverage.

Programs

The town maintains an active recreation program that includes baseball, softball, basketball, tennis, swimming, soccer, ice skating, cross country and downhill skiing, skating and a number of special events. In addition, the town is fortunate to have a wide variety of passive outdoor recreation opportunities that include hiking, cross country skiing and snowmobiling.

Activity Measures

The Parks & Recreation Committee does not have records of its recent programs. Going forward, detailed activity records should be maintained as a basis for future programs.

5-Year Budget

For the past five years the recreation budget remained relatively stable, with slightly decreasing budgets since 2006 and a 2009 budget of \$85, 613. See Figure 9-26 below.

Figure 9-26. Recreation Budget Summary, 2005-2009

Category	2005	2006	2007	2008	2009
Salaries	43,618	45,385	45,412	45,365	44,287
Benefits	7,183	16,201	15,034	16,555	17,639
Training	708	989	639	565	565
Telephone & Utilities	3,626	2,999	3,585	3,198	3,122
Gas & Mileage	1,259	1,263	1,237	1,111	1,002
Property Liability Ins.	991	991	1,106	543	689
Supplies	2,368	3,560	3,648	2,374	2,405
Rentals	6,844	5,205	5,717	6,688	6,773
Program	13,963	19,780	7,202	7,640	6,694
Equipment Repair & Maint.	531	962	1,547	1,237	1,357
Equipment	1,815	1,926	1,182	861	1,080
Total	82,907	99,263	86,310	86,139	85,613

Source: Town Reports, 2005-2009

Issues & Needs

The Parks & Recreation Director and Committee have identified the following needs:

- In the long term, consider a centrally located recreation building be designed and constructed to provide office space, indoor recreation space, restrooms and equipment storage to meet the many needs of the recreation programs.
- Due to its heavy use the Quimby Field needs to be rejuvenated. The Committee is exploring the use of another space so that the field can be temporarily taken out of service to re-establish the turf.
- Sunshine Park is being renovated for use as a disc golf course and cross-country ski area.
- New programs need to be initiated to serve adult populations. In this vein, a music festival was held in the summer of 2010.
- Greater attention needs to be given to providing a broader range of outdoor activities, such as walking, hiking, canoeing and kayaking.
- Creation of safe and adequate parking space at Squam, Pothole and Bearcamp beaches.

Communications Infrastructure

Sandwich has limited access to high speed internet services. In the past, people were reliant on slow dial-up procedures for internet access, but increasingly people are paying for faster wireless (e.g. Verizon, Cyberpine) and satellite (e.g., HughesNet) services to support both personal use and businesses. However, service is not community-wide - in some cases reception is blocked by the mountainous terrain and forests. The Master Plan community survey, conducted in 2009, found that many respondents wanted better access and higher speed internet. Furthermore, the availability of high speed service is considered essential for the establishment or growth of businesses in town.

Fairpoint Communications has recently installed a T-1 line that provides service to the Center Sandwich Village, including the Wentworth Library. Townspeople can access the internet at no cost at the Library. High speed connections to the remainder of the community are uneven. Fairpoint has indicated its intent to extend high speed access to a greater portion of the community but their recent financial difficulties and restructuring have delayed implementation for Sandwich.

Cable television is not yet available in Sandwich, most people relying on traditional antennas or satellite service. Cell phone service is available across most of Sandwich albeit with many "dead zones" due to the mountains and forests. Increasingly, people will have a choice of cell phone service as commercial providers develop their regional coverage.

Sandwich has recently established a Technology Committee. One of its roles might be to provide people with information regarding the services available and to advise on the choice of service to meet their requirements.

Volunteerism

Sandwich has many volunteer groups and relies heavily on the high rate of volunteerism in the community for town boards and associations. In the first community forum for the Master Plan, the second highest ranked attribute was "active, caring, open community". One of the main themes that emerged from the Master Planning process was for Sandwich to retain high levels of social connectivity and volunteerism.

In addition to town citizen boards and commissions, there are almost twenty volunteer groups including:

Sandwich Woman's Club
Ladies' Aid
Friends of the Library
Sandwich Caregivers
Sandwich Senior Resources
Red Mountain Lodge

Rural Cemetery Association of Center Sandwich
Volunteer Fire Department
Sandwich Fire Association
Sandwich Police Association
Sandwich Business Group
4-H

Sandwich Historical Society

Sandwich Central School PTO

Sandwich Fair Association

Garden Gnomes/Bearcamp Valley Garden Club

Sandwich Sidehillers

Sandwich Children's Center

Sandwich Central School PTO

However, in recent years, it has become more difficult to find people willing to serve on town boards, and increasingly the town relies on a limited number of willing volunteers. In the future, the town will probably have to consider recruitment of paid professionals for certain positions e.g. Fire Fighters, Town Planner. In some cases these might operate on a part time basis or possibly shared with other towns.

Funding for Community Facilities

The funding for community facilities and services is managed through the Town's operating and capital budgets. Annual operating expenses and minor capital spending are handled through the town's operating budget, while major equipment and building expenses are handled through capital reserves and trust funds. Trust Funds are those given by individuals to the town, usually through a bequest, for a particular purpose. Capital reserve funds (Capital Reserves and Expendable Trusts) are town funds that are appropriated through warrant articles voted on at Town Meeting. These funds are managed and dispersed by the Trustees of the Trust Funds. Details of all expenditures are well documented in the Sandwich annual Town Reports.

Trust Funds

There are approximately 30 Trust Funds in Sandwich that are used for a variety of purposes. For example, the Quimby Fund – which is a private trust, but makes contributions to the Town – provided \$57,890 for town projects and the recreation program, and the Moses Hall Trust provided \$20,000 for the Quimby Field road paving. Figure 9-27 below summarizes the individual end-year fund balance of key trust funds that have or may provide funds for town departments and capital facilities

Figure 9-27. Trust Fund Balances

Name of Fund	2009 Balance
Rural Cemetery Association	\$131,751
Sandwich Cemetery Association	\$53,081
Stephen Wentworth Memorial (Library)	\$16,509
Daniel Atwood School Fund	\$7,756
Daniel Atwood Sidewalk Fund	\$1,873
Doris Benz	\$134,198
Charles Blanchard (Road maintenance)	\$69,863
Moses Hall (Road maintenance)	\$58,798
Alfred Quimby Fund	\$5,466,706

Source: 2009 Town Report (except Alfred Quimby Fund)

Capital Reserve/Expendable Trust Funds

The following figure (Figure 9-28) summarizes end-year fund balances for key capital reserve funds as presented in the 2009 Town Report:

Figure 9-28. Capital Reserve Fund Balances

Name of Fund**	2009 Balance
Highway Equipment	\$134,812
Fire Protection Equipment	\$163,362
Sewer	\$156,246
Rescue Vehicle Replacement	\$48,928
Fire Ponds/hydrants	\$26,691
Police Department Equipment	\$36,247
Office Equipment	\$4,411
Wentworth Library Expendable Trust	\$21,779
Durgin Bridge	\$13,838
Landfill Expansion	\$21,883
Life Safety Building	\$27,261
Town Hall Expansion	\$21,684

Source: 2009 Town Report

**Note: Does not include funds dedicated to maintenance.

Action Plan

Vision Goals for Community Facilities and Services

Provide in a cost effective manner the quality and level of municipal services and facilities that are enjoyed in Sandwich today.

Encourage modern communication facilities, systems and services to meet the needs and diversity of Sandwich's residents and businesses, now and in the years to come.

Encourage and foster high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level.

Actions

Police

- CS 1.1: Examine options for the current police facility including renovation, expansion or replacement to provide for ADA accessibility, adequate interview or storage space, including secure storage space for evidence.
- CS 1.2: Upgrade electrical and plumbing systems—may be part of renovation.

Fire and Medical

- CS 2.1: Expand the main fire station to allow for an additional fire truck bay.
- CS 2.2: Undertake repair of main fire station roof and upgrade of electrical system.
- CS 2.3: Develop a long range plan for provision of fire-fighting and medical services, especially in light of anticipated major capital expenditures in the medium term.

Highway/Public Works

- CS 3.1: Upgrade main Highway Department building (shed) including new roof, new generator, vented room for welding operations, and a more secure equipment storage area.

Town Hall

- CS 4.1: Enlarge and modernize current workspaces and meeting room.
- CS 4.2: Add more records storage space.
- CS 4.3: Add second meeting room, along with space for such functions as treasurer, building inspector, sewer, etc.

CS 4.4: Consider ADA accessibility to the second floor.

Solid Waste

CS 5.1: Improve traffic flow at the transfer station and repair the access road.

CS 5.2: In the long term, consider specific ways to better manage the town's solid waste either at the current site or in combination with adjacent towns.

Sewer System

CS 6.1: Continue to identify and repair areas of sewer system infiltration.

CS 6.2: Undertake a comprehensive engineering study to determine current functional capacity of the Center Sandwich sewer system considering system limitations and provide alternative strategies for system configuration to accommodate future demand.

Library

CS 7.1: Address the ongoing building maintenance needs of the historic Wentworth Library including energy and lighting improvements, electrical system upgrades, ADA accessibility, reconfiguration of the circulation desk, and safety improvements.

CS 7.2: Provide the necessary tools to efficiently manage and operate the library for the benefit of its patrons, including upgraded circulation software and acquisition of new digital technology equipment for audio and video users.

School

CS 8.1: Closely monitor how the school is managed, operated and maintained by the Inter-Lakes School Board.

CS 8.1: Continue advocacy for the needs of the school in the long term.

Parks and Recreation

CS 9.1: Improve parking at Squam Lake Beach, the Pothole and Bearcamp Pond.

Communications Infrastructure

CS 10.1: Work with existing commercial providers and advocate for the provision of state-of-the-art electronic communication services throughout Sandwich.

Sandwich, New Hampshire
Master Plan Update

Map 1
General Land Cover

- Land Cover Classes**
- ☐ Developed Lands 50 - 3075
 - ☐ Open and Agriculture Lands 4,363 3075
 - ☐ Forested Lands 52,521 3075
 - ☐ Open Water 2,366 3075

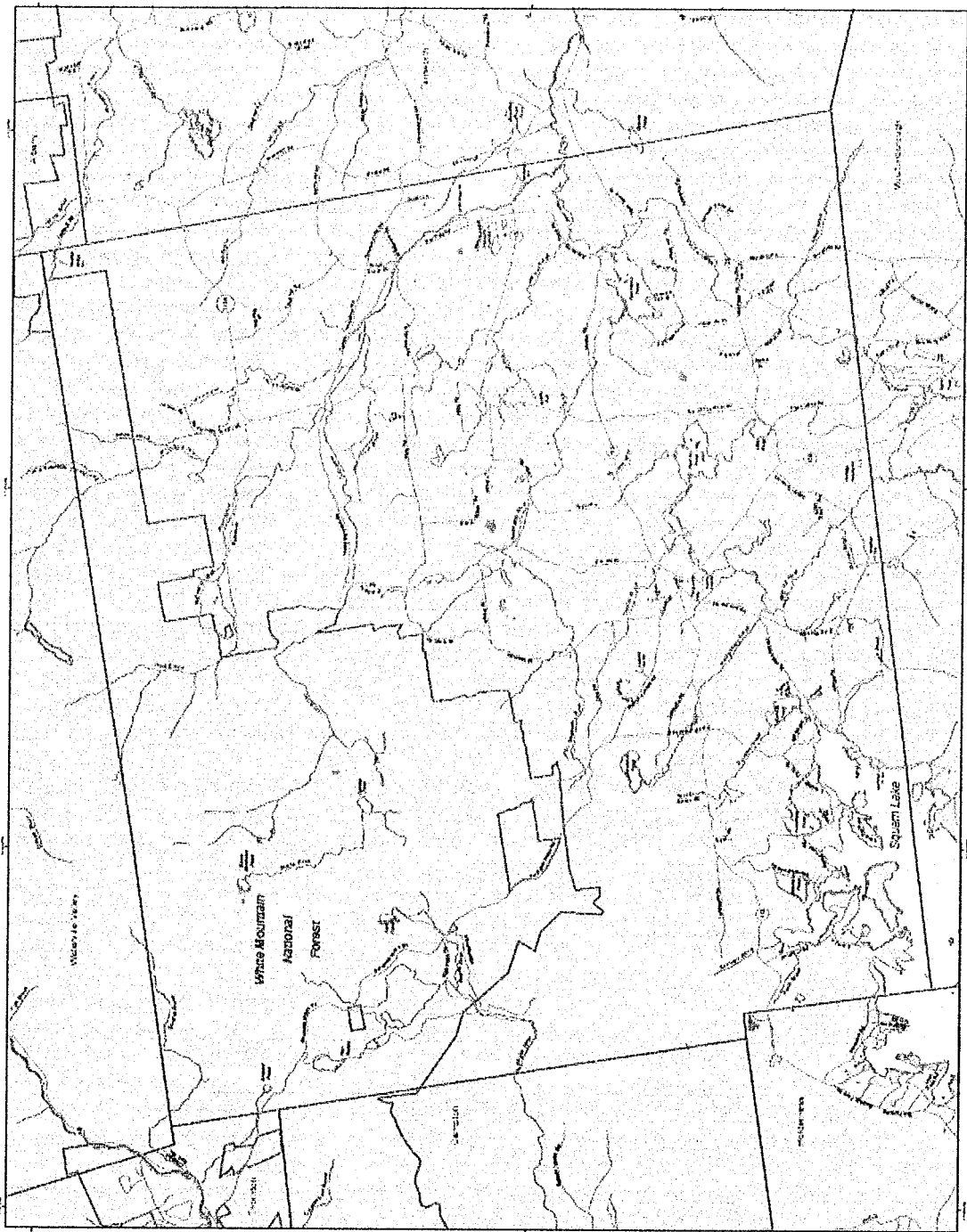
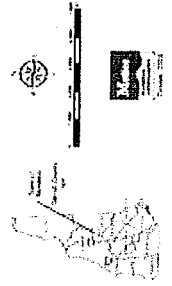
- Base Map Features**
- Town Boundaries
 - State Routes
 - Municipal/Private Roads
 - Rivers and Streams
 - Lake/Pond
 - White Mountain National Forest

Legend

Developed Lands: 50 - 3075
Open and Agriculture Lands: 4,363 3075
Forested Lands: 52,521 3075
Open Water: 2,366 3075

Base Map Features

Town Boundaries
State Routes
Municipal/Private Roads
Rivers and Streams
Lake/Pond
White Mountain National Forest





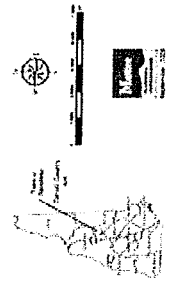
Sandwich, New Hampshire Master Plan Update Map 3 Slope

Slope Class	Area (Acres)	Percent of Total Area
0 - 15%	5,344	22.94%
15 - 25%	4,769	20.17%
25 - 35%	2,250	9.55%
35 - 45%	4,275	18.15%
45 - 60%	11,905	50.19%

- Base Map Features**
- Town Boundaries
 - State Routes
 - Municipal Phase Roads
 - Rivers and Streams
 - Lake/Pond
 - White Mountain National Forest

Legend

0 - 15%
15 - 25%
25 - 35%
35 - 45%
45 - 60%



Sandwich, New Hampshire
Master Plan Update

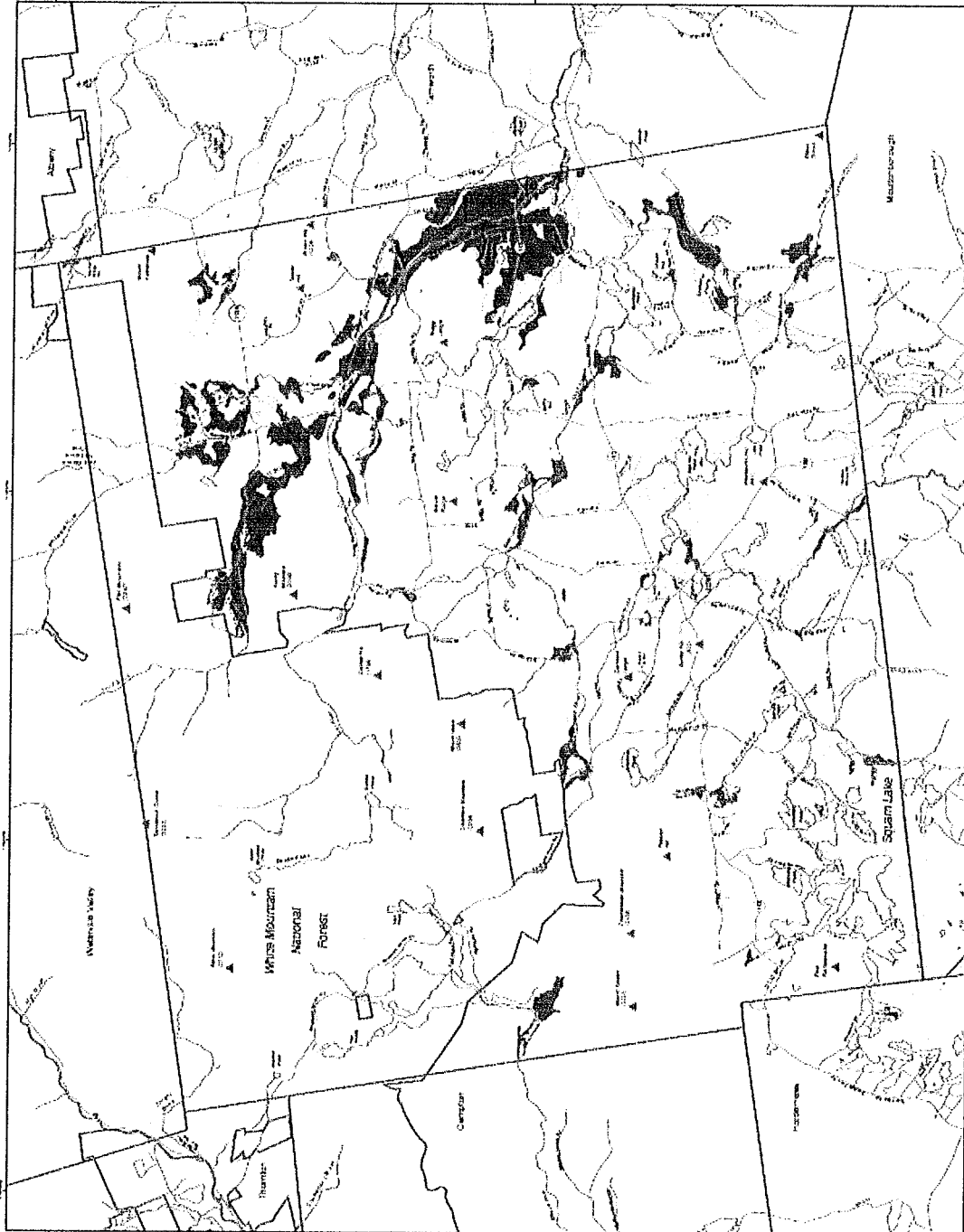
Map 4
Sand and Gravel
Resources

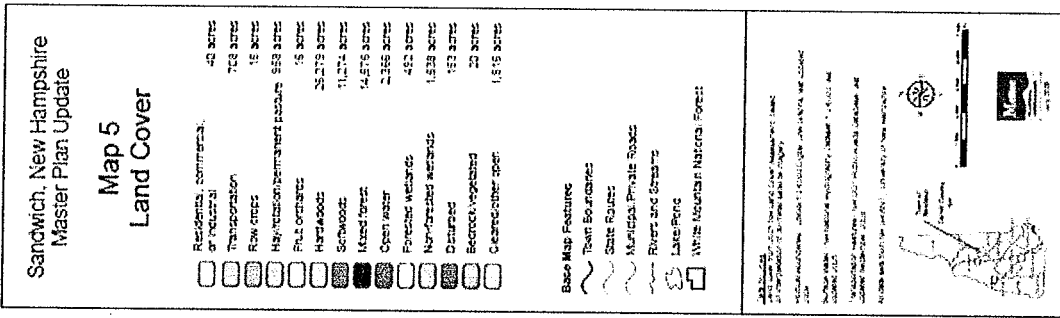
Sand/Gravel Sources
 Sand/Gravel Soils 3,751 acres
 Streambed Gravel 4,941 acres
 Aquifers 2,025 acres
 Area of Aquifer and Streambed Gravel 2,025 acres

Legend

Base Map Feature
 Town Boundary
 State Route
 Municipal/Private Road
 River and Stream
 Lake/Pond
 White Mountain National Forest

Notes:
 1. This map was prepared for the Sandwich, New Hampshire Master Plan Update. It is not intended to be used for any other purpose.
 2. The map was prepared using data from the New Hampshire Department of Resources and Planning, the New Hampshire Department of Transportation, and the New Hampshire Department of Environmental Services.
 3. The map was prepared using data from the New Hampshire Department of Resources and Planning, the New Hampshire Department of Transportation, and the New Hampshire Department of Environmental Services.
 4. The map was prepared using data from the New Hampshire Department of Resources and Planning, the New Hampshire Department of Transportation, and the New Hampshire Department of Environmental Services.
 5. The map was prepared using data from the New Hampshire Department of Resources and Planning, the New Hampshire Department of Transportation, and the New Hampshire Department of Environmental Services.





Sandwich, New Hampshire Master Plan Update

Map 6 Forest Soils

Important Forest Soil Groups

Group IA	11,473 acres
Group IB	16,551 acres
Group IC	2,118 acres
Group IIA	6,023 acres
Group IIB	3,346 acres
Group IIC	8,443 acres
Not Classified	

Soils are mapped only in areas under 20% of the town's area. The total area of the town is 43,304 acres. A maximum of 20% of the total town acreage is 8,661 acres.

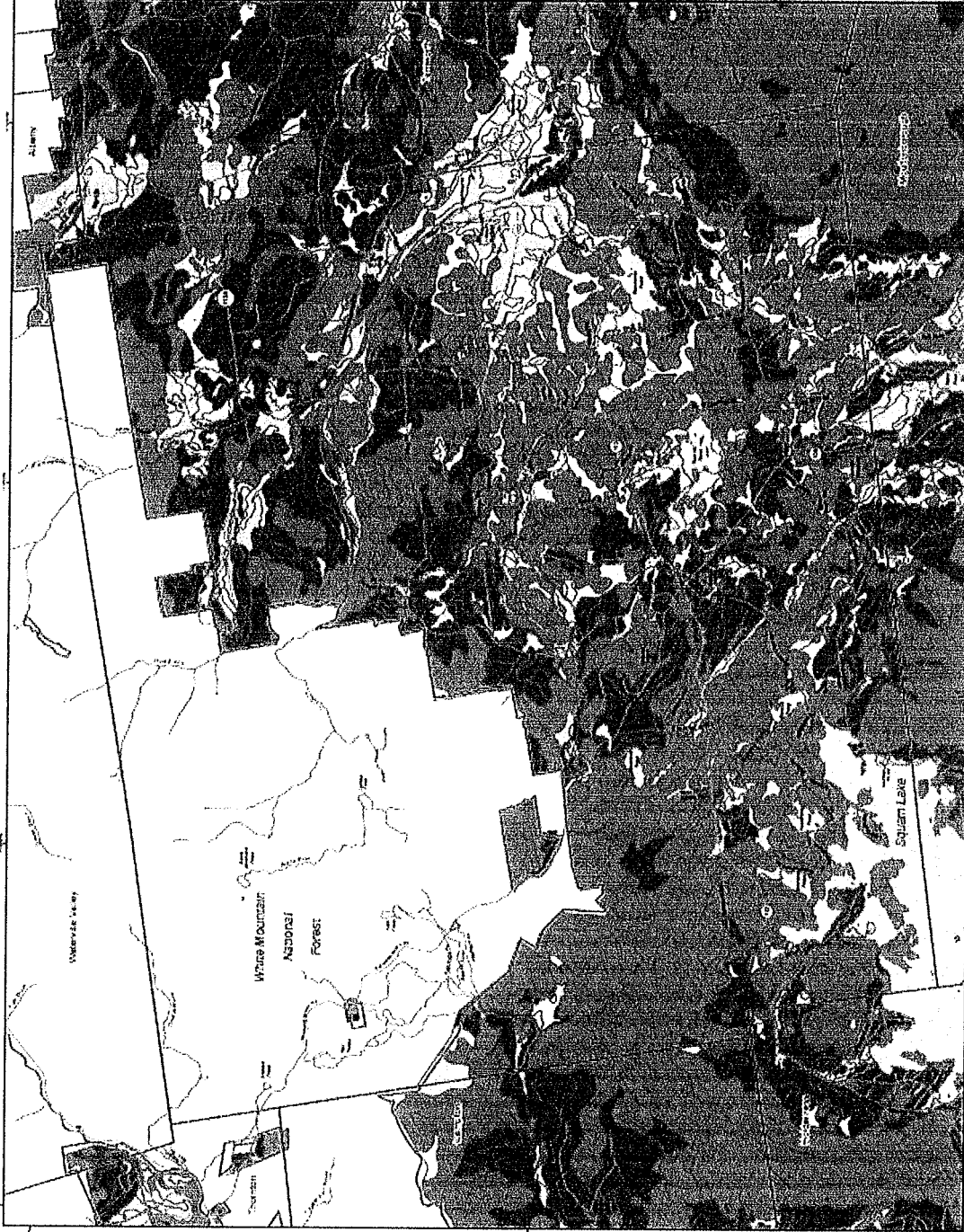
- Base Map Features**
- Town Boundaries
 - State Routes
 - Municipal/Private Roads
 - Rivers and Streams
 - Lake/Pond
 - White Mountain National Forest

Legend

Group IA: 11,473 acres
Group IB: 16,551 acres
Group IC: 2,118 acres
Group IIA: 6,023 acres
Group IIB: 3,346 acres
Group IIC: 8,443 acres
Not Classified

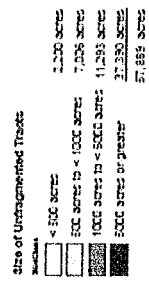
Base Map Features

Town Boundaries
State Routes
Municipal/Private Roads
Rivers and Streams
Lake/Pond
White Mountain National Forest



Sandwich, New Hampshire
Master Plan Update

Map 7
Unfragmented
Lands



Unfragmented tracts were determined by applying a threshold of 500 acres to the total area of the town.

Legend

- State Route
- Local Road - Class V - Island
- Local Road - Class V - Spine
- Local Road - Class VI
- State Street
- Local Road - Class V - Island
- Local Road - Class V - Spine
- Local Road - Class VI

Base Map Features

- Town Boundaries
- State Routes
- Multi-Use/Open Roads
- Rivers and Streams
- Lake/Pond
- White Mountain National Forest

THE TOWN OF SANDWICH, NEW HAMPSHIRE, HAS A TOTAL AREA OF 1,000 SQUARE MILES. THE TOWN IS BOUNDED BY THE STATE OF NEW HAMPSHIRE TO THE NORTH, THE STATE OF VERMONT TO THE EAST, AND THE STATE OF MASSACHUSETTS TO THE SOUTH. THE TOWN IS BOUNDED BY THE STATE OF NEW HAMPSHIRE TO THE NORTH, THE STATE OF VERMONT TO THE EAST, AND THE STATE OF MASSACHUSETTS TO THE SOUTH.



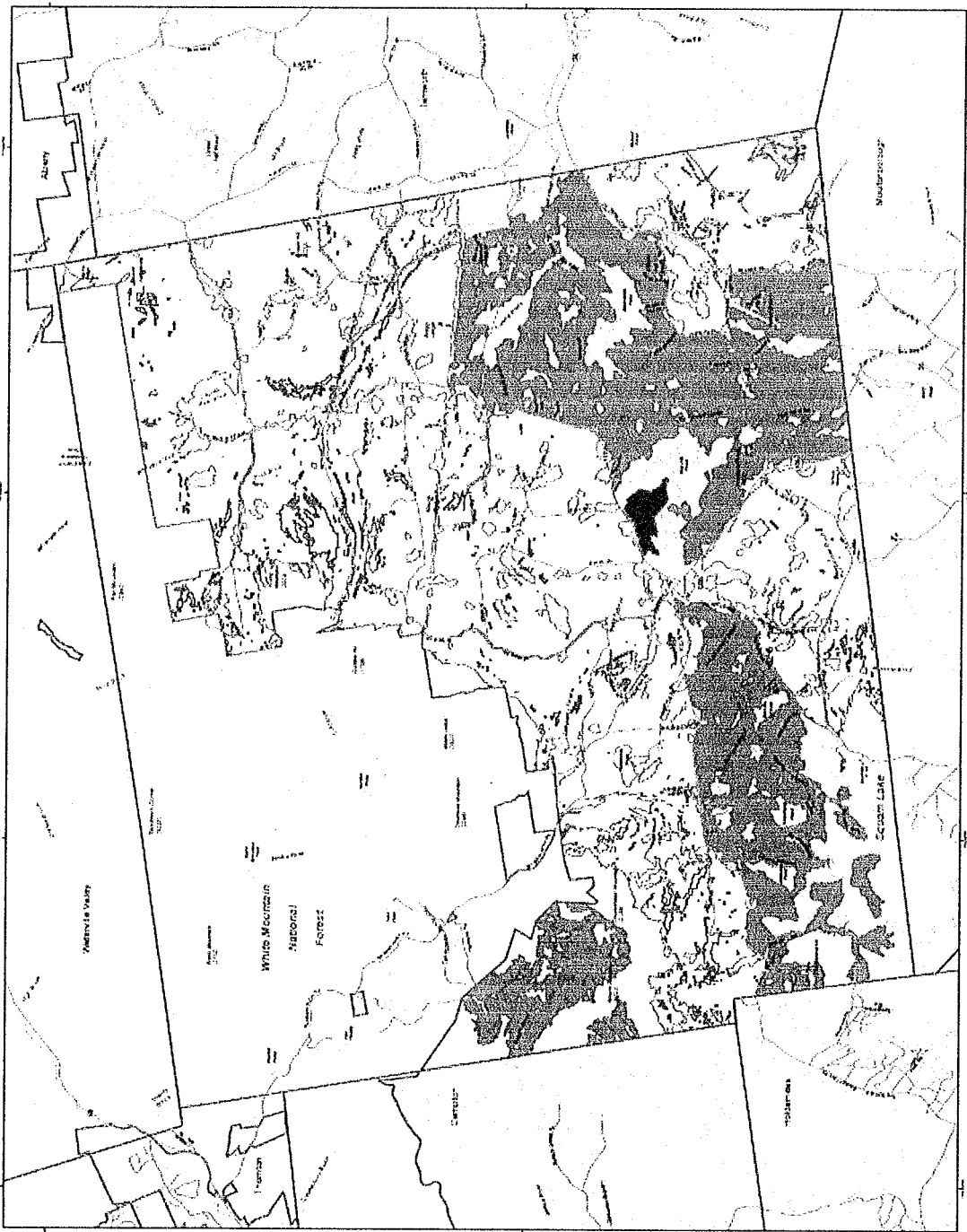
Sandwich, New Hampshire
Master Plan Update

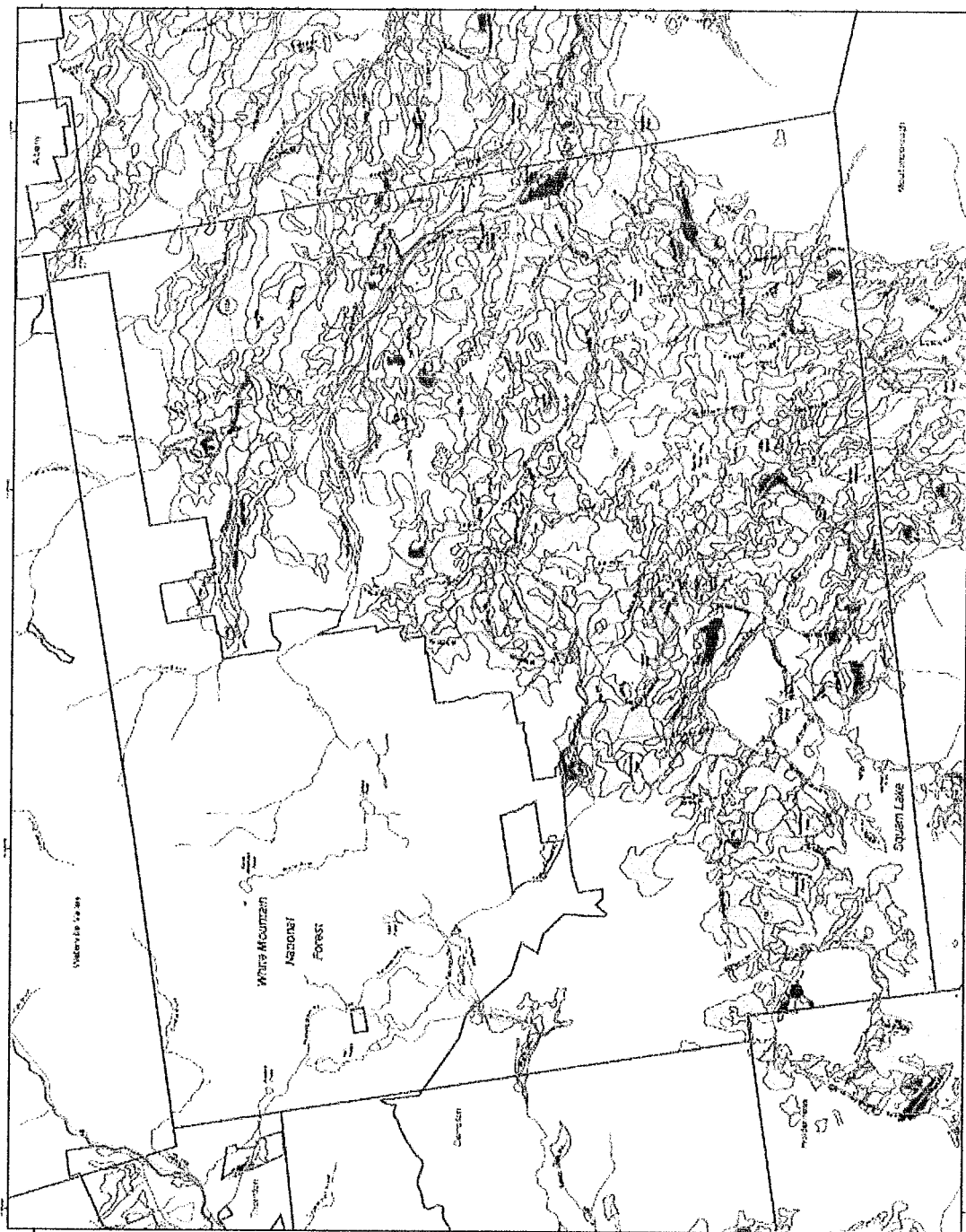
Map 8
Potential Commercial
Forest Areas

Forested Blocks > 50 Acres in Sandwich
 FSC Class A 135 Acres
 FSC Class B or C 13,300 Acres
 FSC Class I 102 Acres
 Mixed State 20,655 Acres

- Base Map Features
- Town Boundaries
 - State Routes
 - Municipal/Private Roads
 - Rivers and Streams
 - Lake/Pond
 - White Mountain National Forest

This map was prepared by the Sandwich Planning Board in cooperation with the White Mountain National Forest. The map shows potential commercial forest areas in Sandwich, New Hampshire. The map was prepared using data from the Forest Service's National Forest Inventory and Planning System (NFIPS) and the State of New Hampshire's Forest Inventory and Planning System (SFIPS). The map was prepared in 2003 and is subject to change as more data becomes available.





Sandwich, New Hampshire Master Plan Update Map 9 Agricultural Soils

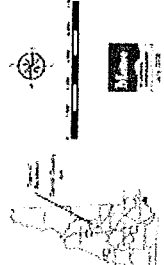
Agricultural Soils	
Prime Farmland Soil	439 acres
Farmland Soil of Statewide Importance	511 acres
Farmland Soil of Local Importance	21,473 acres
Non-Farmland Soil	24,624 acres

Soils are mapped only in a few sections of the White Mountain National Forest. In September, 2001, the Forest Service mapped 10,000 of the 24,624 acres of the forest.

- Base Map Features**
- Town Boundaries
 - State Routes
 - Norridgewood Road
 - Rivers and Streams
 - Lake Pond
 - White Mountain National Forest

Legend

Soils are mapped only in a few sections of the White Mountain National Forest. In September, 2001, the Forest Service mapped 10,000 of the 24,624 acres of the forest.



Sandwich, New Hampshire
Master Plan Update

Map 10
Surface Water
Resources

Watersheds (HUC 8)	17,332.5 acres
Pemigewasset River	22,172.5 acres
Ookhose (Saco River)	10,235.3 acres
Winterwasset River	5,767 acres
HUC 12 Boundaries	
Floodplain	
100-Year Floodplain	
Stream Order	
1st Order Stream	22.1 mi/35
2nd Order Stream	22.3 mi/35
3rd Order Stream	22.3 mi/35
4th Order Stream	22.3 mi/35
Wetlands	
Norwich Wetlands Inventory	3,254 acres
Hyatt 5012	4,719 acres

Wetlands are shown on the map as areas that are periodically flooded by water from the ocean, rivers, or streams.

5 - Prime Wetlands

Base Map Feature

Town Boundaries

Lotse Pond

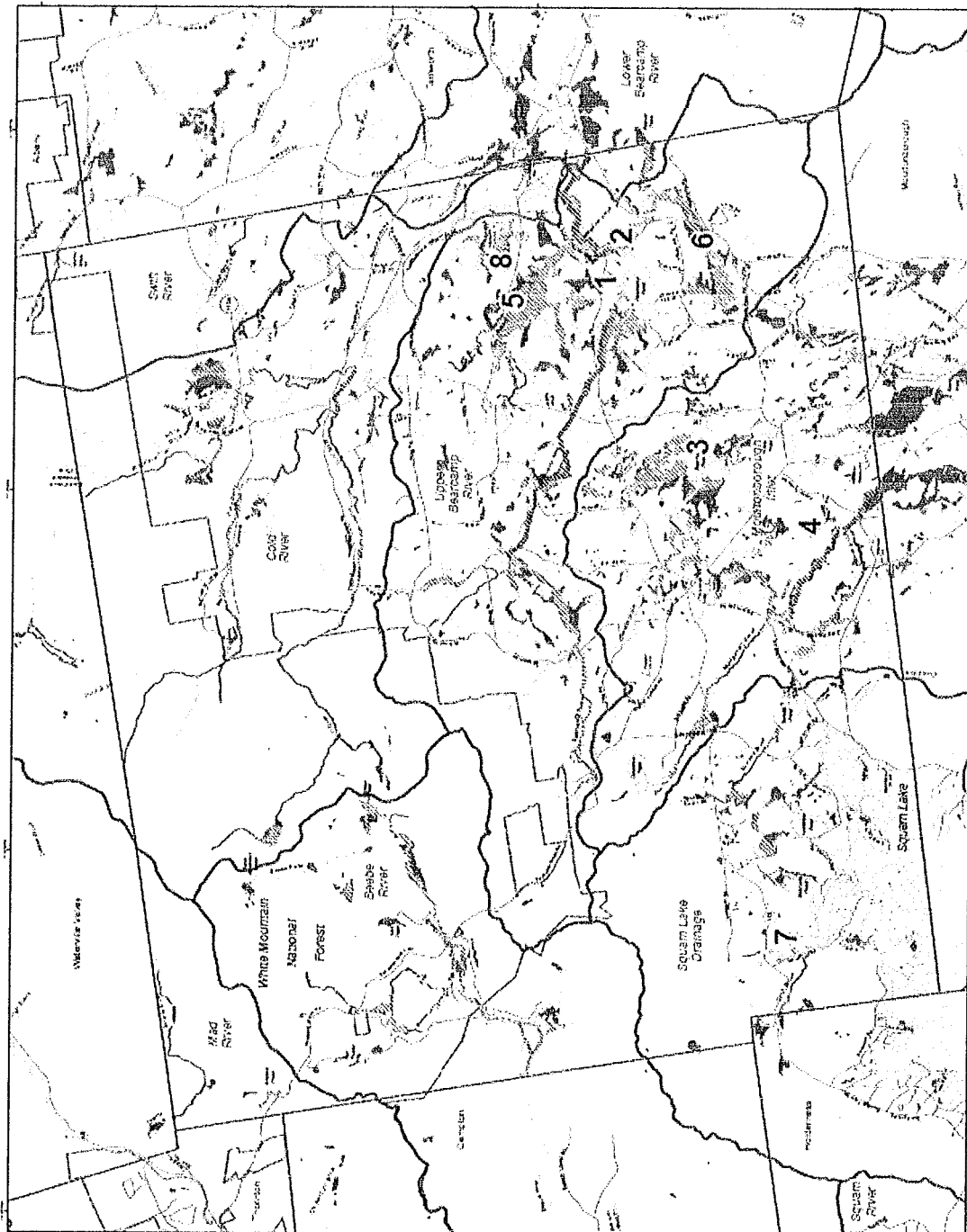
North Mountain National Forest

This map was prepared by the Town of Sandwich, New Hampshire, in cooperation with the New Hampshire Department of Resources and Planning. The map shows the results of a study conducted by the New Hampshire Department of Resources and Planning, in cooperation with the Town of Sandwich, New Hampshire, to identify and map the surface water resources of the Town of Sandwich, New Hampshire. The map was prepared using data provided by the New Hampshire Department of Resources and Planning, and the Town of Sandwich, New Hampshire. The map was prepared using data provided by the New Hampshire Department of Resources and Planning, and the Town of Sandwich, New Hampshire. The map was prepared using data provided by the New Hampshire Department of Resources and Planning, and the Town of Sandwich, New Hampshire.

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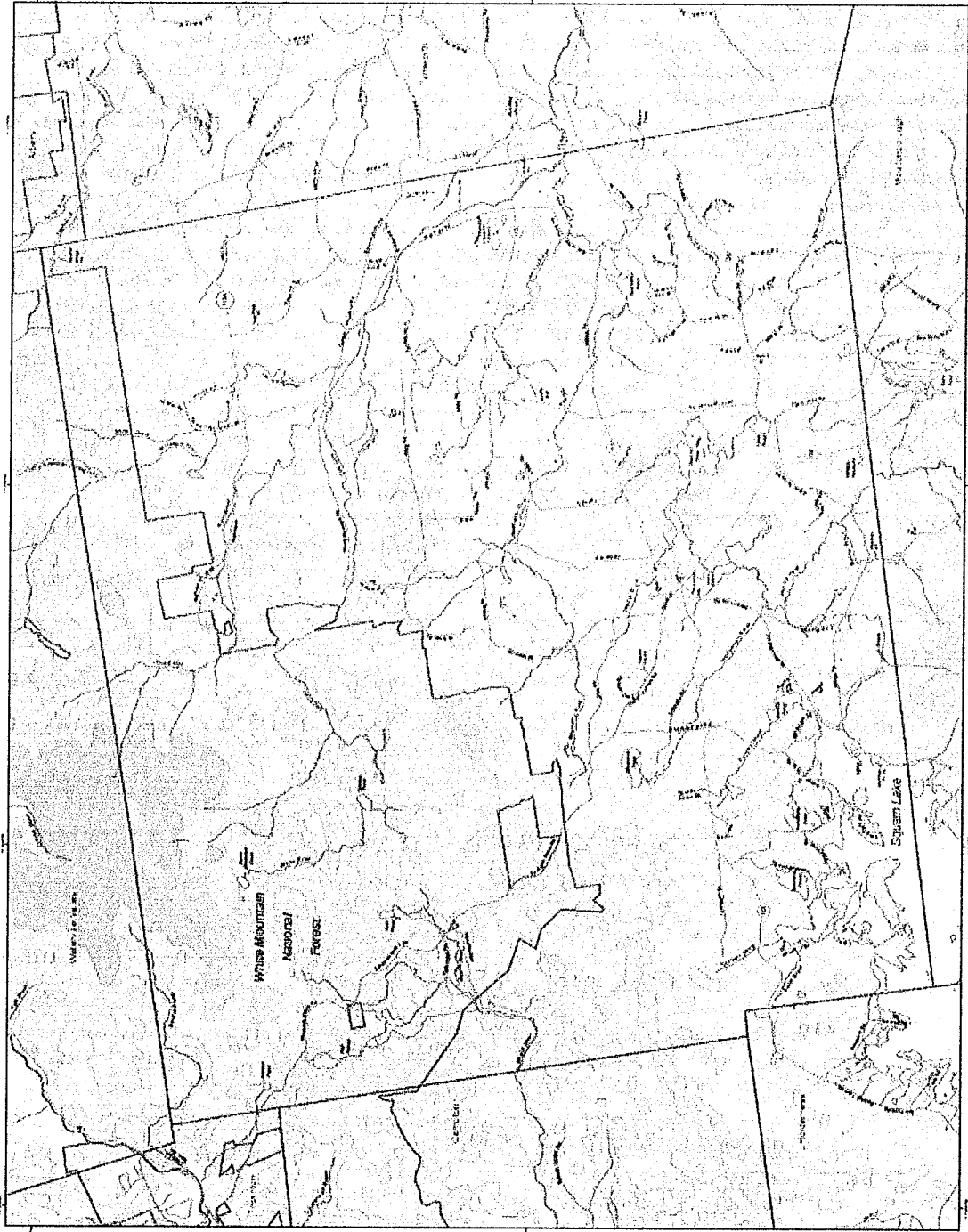
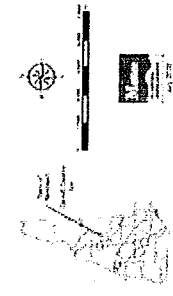
Sandwich, New Hampshire
Master Plan Update

Map 11
Wildlife Habitats

- Pasture 749 acres
- Wet Meadow 1,342 acres
- Shrub Wetland 1,914 acres
- Rocky Ridge or Thin Soil 333 acres
- Forest Pasture 378 acres
- Grassland 1,338 acres
- High Elevation Scrub-oak Forest 7,002 acres
- Lowland Spruce Fir Forest 9,213 acres
- Northern Hardwood Conifer Forest 33,342 acres
- Hemlock-Sitka Spruce Forest

- Base Map Feature
- Town Boundary
- State Route
- Municipal Private Road
- River and Stream
- Lake Pond
- White Mountain National Forest

Map 11 Wildlife Habitats
Scale: 1 inch = 1 mile
Map Date: 10/1/2011
Map Author: [illegible]
Map Reviewer: [illegible]
Map Approved: [illegible]
Map Approved Date: [illegible]



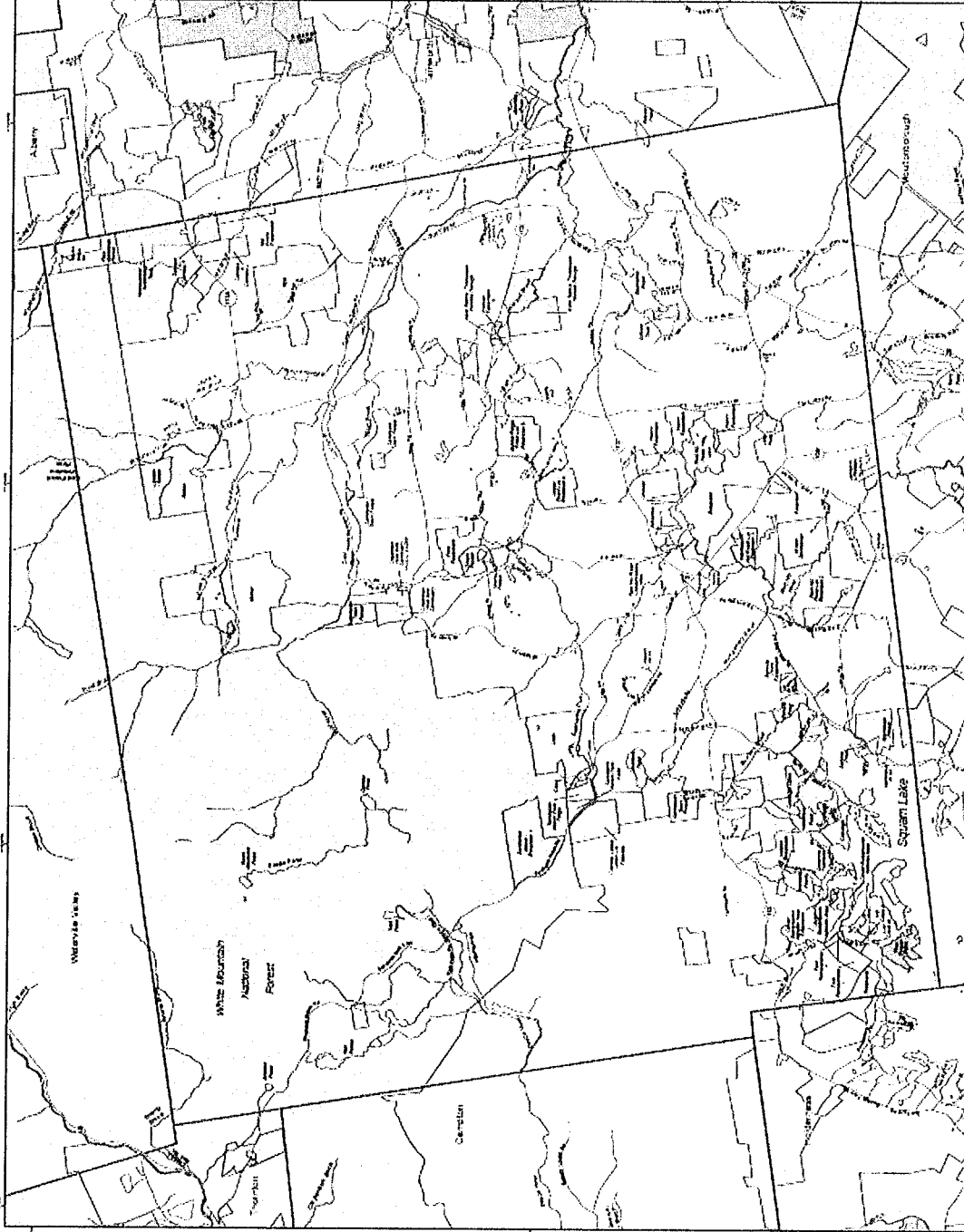
Sandwich, New Hampshire Master Plan Update

Map 12 Conservation Lands

Primary Protecting Agency Type	
	Federal
	State
	Municipal/County
	Private

Base Map Features	
	Town Boundaries
	State Routes
	Municipal/Private Roads
	Rivers and Streams
	Lake/Pond

SANDWICH, NEW HAMPSHIRE
 COMMISSIONER OF REVENUE AND TAXATION
 LAND USE DIVISION
 100 STATE STREET, SUITE 200
 SANDWICH, NH 03265-1000
 PHONE: 603/893-3000
 FAX: 603/893-3001
 WWW.NHSTATE.GOV





Sandwich Master Plan Survey Results

**Survey Conducted by the Sandwich Master Plan Sub-Committee,
August 1, 2009 – October 5, 2009**

**Technical support provided by:
Mettee & Associates and
UNH Cooperative Extension**

Introduction:
This survey was created by the Sandwich Master Plan Update Committee, with the assistance of Mettee & Associates and Charlie French, Associate Extension Professor of Community Development with UNH Cooperative Extension. Its purpose is to gather the views of Townspeople on the issues facing Sandwich and to provide an important input to the formulation of the 2010 Sandwich Master Plan. The survey was administered between August 1, 2009 and October 5, 2009. The survey was made available to the residents of Sandwich in both hard-copy format and web-based format.

The overall survey response rate was 29% and the data was collated using InstantSurvey's analysis function. The committee believes that the data contained in the survey results reflects the diversity of the full community. As with any survey, these results must be viewed in context and caution should be exercised in interpreting these data.

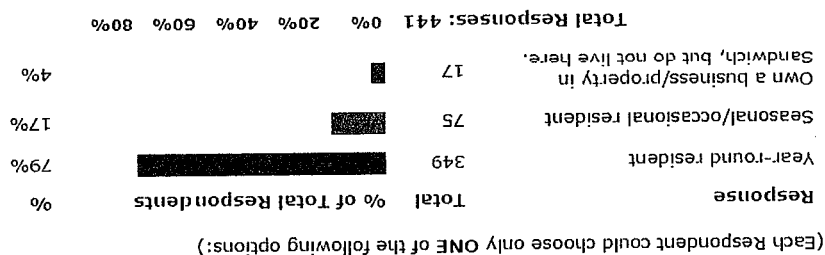
The Master Plan update thanks those people who took the time to complete this survey and to provide these valuable inputs to the Master Plan preparation.

SUMMARY REPORT WITH BAR CHARTS SANDWICH MASTER PLAN SURVEY

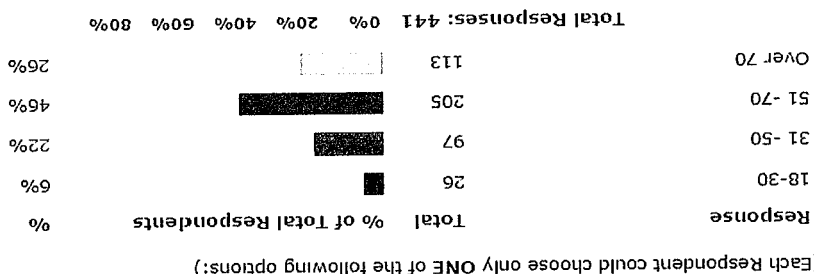
One-Touch Filtering"
Click on chart elements
to automatically filter
the report by that
value.
Sandwich Master Plan Survey
Start Date: 7/30/2009
End Date: 10/5/2009
Maximum number of respondents: 447
Total Responses Completed: 447
Partial Completions: 30

Part I






Please check one of the following options that best describes your residence status in Sandwich.








Please select one of the following choices that best describes your age.








Please rate the following services provided by the Town of Sandwich.**For each item below, please check the response that best reflects your opinion.****• Town administrative services**(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	318		72%
Fair	92		21%
Poor	5		1%
Very Poor	1		0%
Don't know	26		6%






Total Responses: 442 0% 20% 40% 60% 80%**For each item below, please check the response that best reflects your opinion.****• Tax Collection / Town Clerk**(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	311		70%
Fair	103		23%
Poor	16		4%
Very Poor	4		1%
Don't know	12		3%

Total Responses: 446 0% 20% 40% 60% 80%**For each item below, please check the response that best reflects your opinion.****• Law enforcement & protection**(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	326		73%
Fair	80		18%
Poor	5		1%
Very Poor	2		0%
Don't know	35		8%

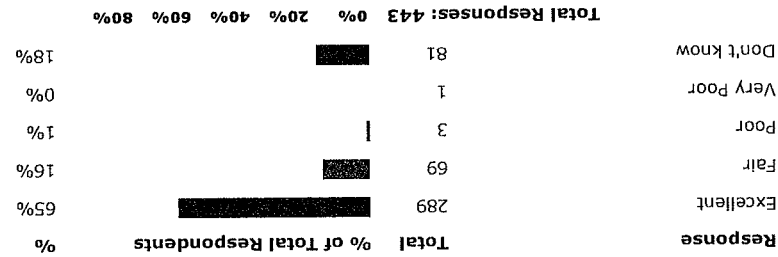
Total Responses: 448 0% 20% 40% 60% 80%**For each item below, please check the response that best reflects your opinion.****• Fire protection**(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	283		63%
Fair	74		17%
Poor	6		1%
Very Poor	0		0%
Don't know	84		19%

Total Responses: 447 0% 20% 40% 60% 80%**For each item below, please check the response that best reflects your opinion.**

● **Rescue & ambulance**

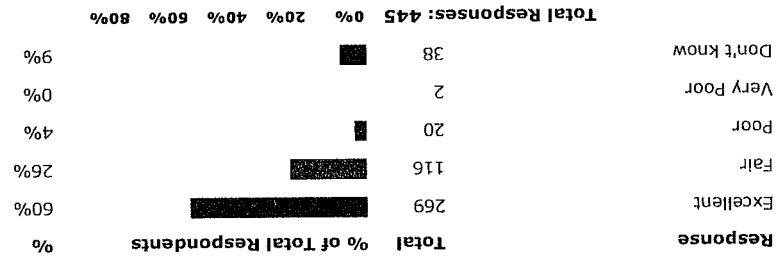
(Each Respondent could choose only **ONE** of the following options:)



For each item below, please check the response that best reflects your opinion.

● **Waste disposal / Transfer Station**

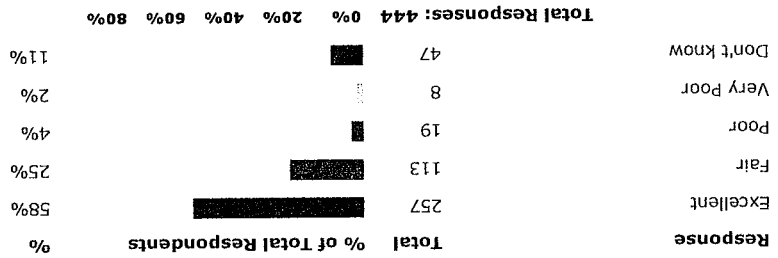
(Each Respondent could choose only **ONE** of the following options:)



For each item below, please check the response that best reflects your opinion.

● **Parks & recreation**

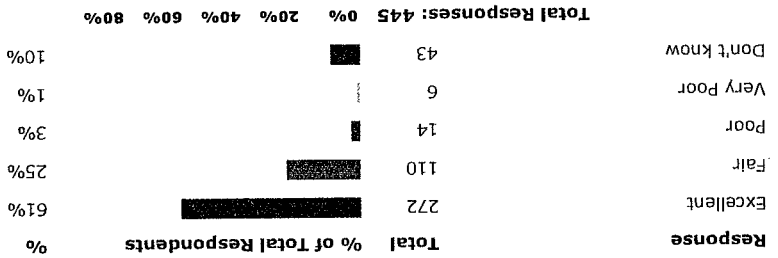
(Each Respondent could choose only **ONE** of the following options:)



For each item below, please check the response that best reflects your opinion.

● **Wentworth Library**






(Each Respondent could choose only **ONE** of the following options:)



For each item below, please check the response that best reflects your opinion.

● **Sandwich Central school**






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	220		50%
Fair	50		11%
Poor	15		3%
Very Poor	2		0%
Don't know	153		35%
Total Responses: 440 0% 20% 40% 60% 80%			

For each item below, please check the response that best reflects your opinion.

• Highway maintenance






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	152		34%
Fair	207		46%
Poor	52		12%
Very Poor	23		5%
Don't know	13		3%
Total Responses: 447 0% 20% 40% 60% 80%			

For each item below, please check the response that best reflects your opinion.

• What is the general condition of Town roads.






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	75		17%
Fair	277		61%
Poor	65		14%
Very Poor	29		6%
Don't know	6		1%
Total Responses: 452 0% 20% 40% 60% 80%			

For each item below, please check the response that best reflects your opinion.

• What is the general condition of State roads in Sandwich.

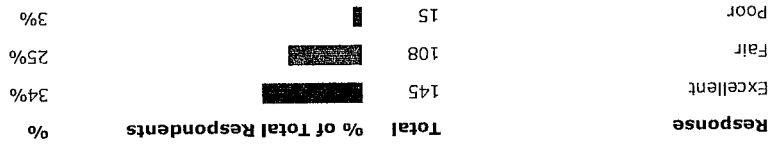
(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	39		9%
Fair	190		42%
Poor	137		30%
Very Poor	77		17%
Don't know	11		2%
Total Responses: 454 0% 20% 40% 60% 80%			

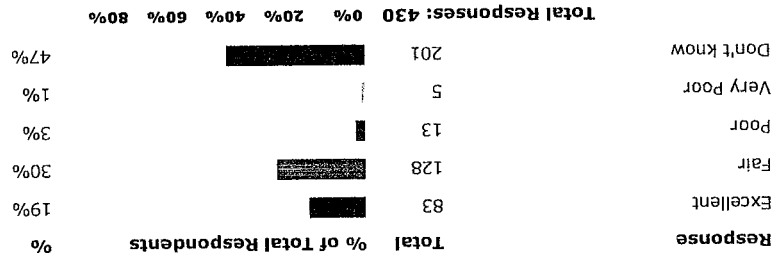
Please rate the services provided by the following Sandwich management organizations.

• Select Board

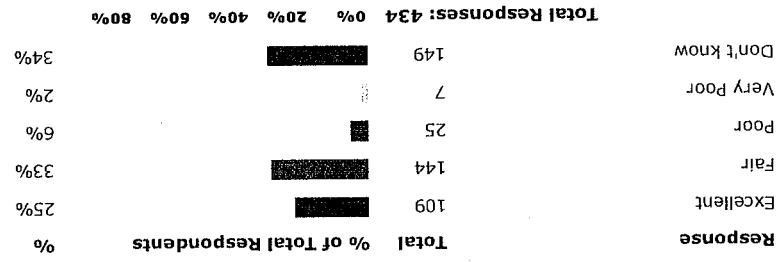
(Each Respondent could choose only **ONE** of the following options:)



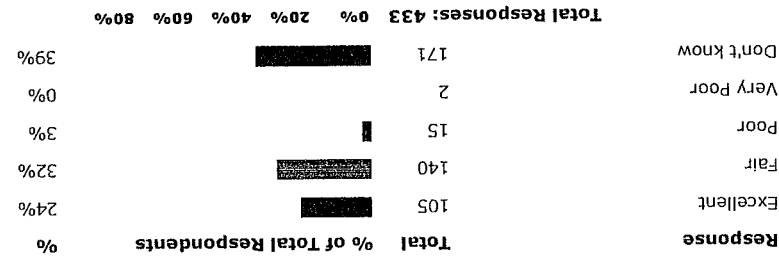
• Master Plan Committee



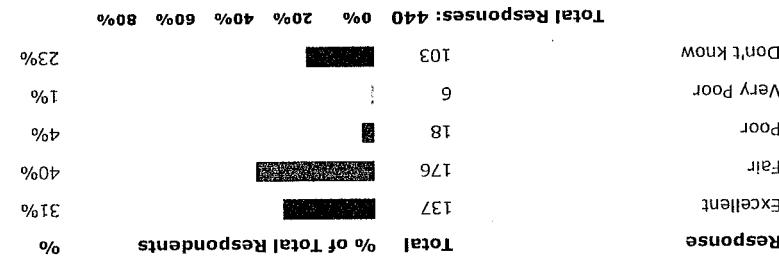
• Capital Improvement Program





• Planning Board







• Budget Committee



Very Poor	4		1%
Don't know	158		37%
Total Responses: 430 0% 20% 40% 60% 80%			






• Conservation Commission

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	132		30%
Fair	124		29%
Poor	14		3%
Very Poor	0		0%
Don't know	164		38%
Total Responses: 434 0% 20% 40% 60% 80%			





• Historic District Commission

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	124		28%
Fair	117		27%
Poor	39		9%
Very Poor	10		2%
Don't know	146		33%
Total Responses: 436 0% 20% 40% 60% 80%			






• Sewer Commission

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	97		22%
Fair	91		21%
Poor	11		3%
Very Poor	0		0%
Don't know	233		54%
Total Responses: 432 0% 20% 40% 60% 80%			

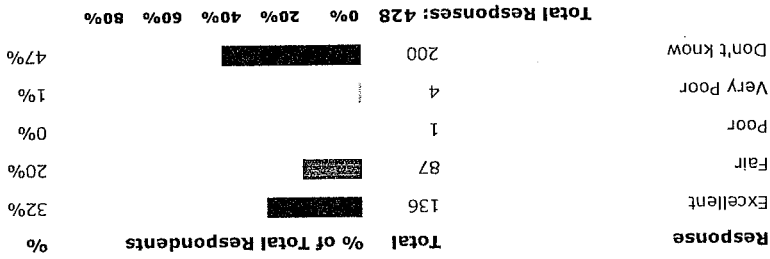
• Zoning Board of Adjustment

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Excellent	89		20%
Fair	134		31%
Poor	16		4%
Very Poor	4		1%
Don't know	192		44%
Total Responses: 435 0% 20% 40% 60% 80%			

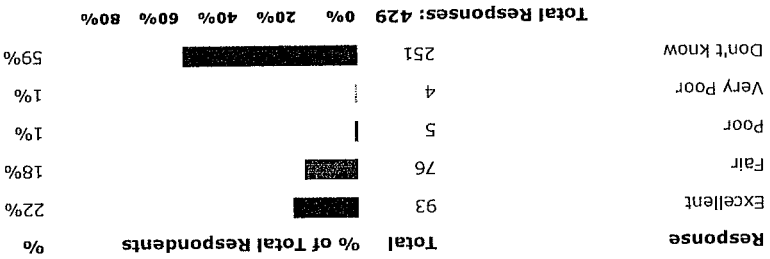
• Trustees of the Trust Funds

(Each Respondent could choose only ONE of the following options:)



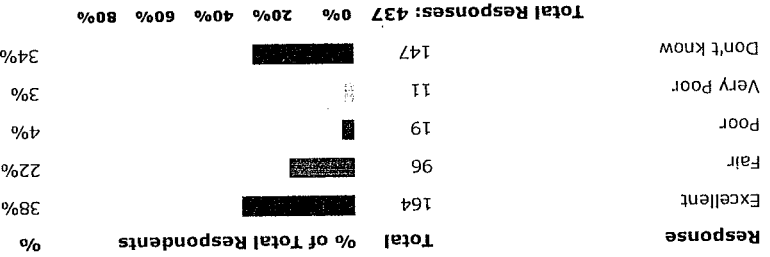
● Energy Committee

(Each Respondent could choose only ONE of the following options:)



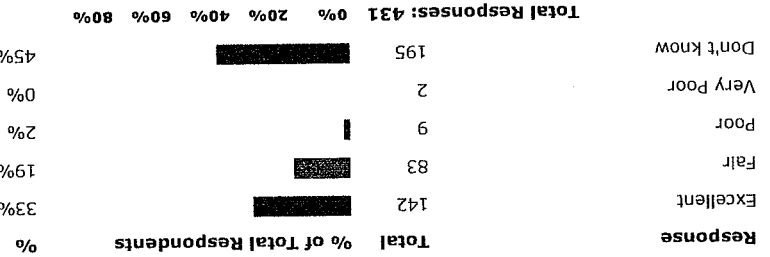
● Parks & Recreation Committee

(Each Respondent could choose only ONE of the following options:)



● Cemetery Trustees

(Each Respondent could choose only ONE of the following options:)








Looking ahead over the next 10 years, please rate the importance of the following possible initiatives in Sandwich.

● An expanded town hall with improved office space, meeting rooms, vault etc.

(Each Respondent could choose only ONE of the following options:)






Response	Total	% of Total Respondents
----------	-------	------------------------

Very Important	48		11%
Somewhat Important	110		25%
Not very important	153		34%
Not at all important	103		23%
Don't Know	33		7%

Total Responses: 447 0% 20% 40% 60% 80%

• **An expanded & renovated Police Station on the existing site.**






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very Important	41		9%
Somewhat Important	130		29%
Not very important	133		30%
Not at all important	92		21%
Don't Know	48		11%

Total Responses: 444 0% 20% 40% 60% 80%

• **An expanded Fire Station on its' existing site, also to serve as the Town emergency shelter**






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very Important	58		13%
Somewhat Important	151		34%
Not very important	116		26%
Not at all important	76		17%
Don't Know	43		10%

Total Responses: 444 0% 20% 40% 60% 80%

• **A combined Fire / Police "Life Safety" Building**





(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very Important	57		13%
Somewhat Important	89		20%
Not very important	91		21%
Not at all important	157		35%
Don't Know	49		11%

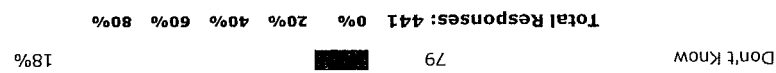
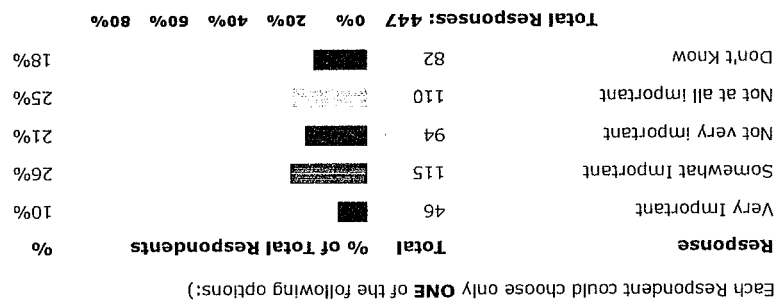
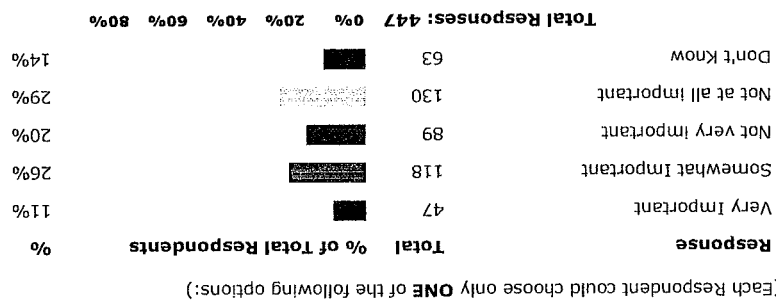
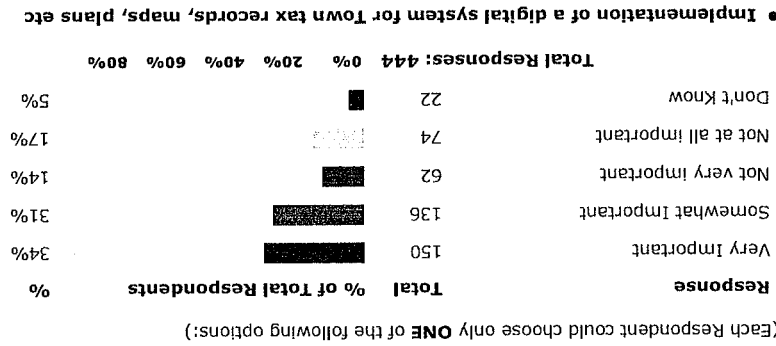
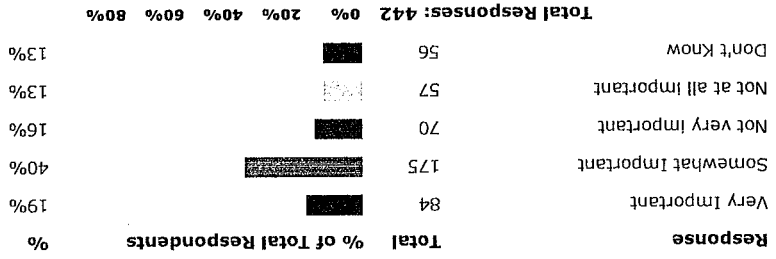
Total Responses: 443 0% 20% 40% 60% 80%

• **Establishment of a part time Town Manager position.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very Important	48		11%
Somewhat Important	93		21%
Not very important	76		17%
Not at all important	145		33%

Part 2





Please use the space below to make brief, constructive suggestions for improvement of facilities and services in Sandwich:

[REDACTED]

Do you use a computer at home for:



• **Personal use?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	381		88%
No	54		12%
Total Responses: 435 0% 20% 40% 60% 80%			

• **Business use?**



(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	203		51%
No	198		49%
Total Responses: 401 0% 20% 40% 60% 80%			

Do you have internet service through:



• **Dial-up?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	153		49%
No	158		51%
Total Responses: 311 0% 20% 40% 60% 80%			



• **Cable?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	23		8%
No	253		92%
Total Responses: 276 0% 20% 40% 60% 80%			

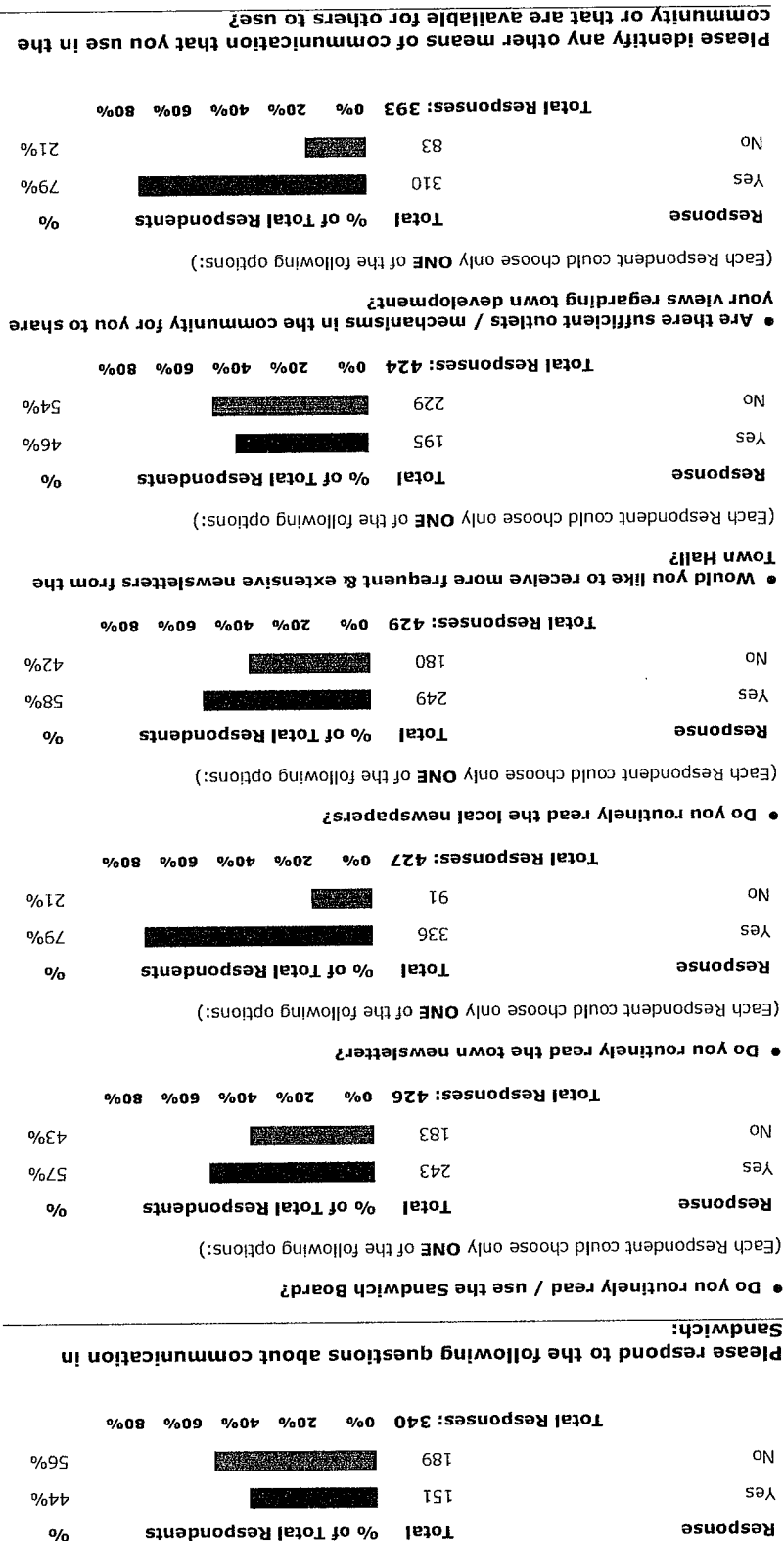
• **Satellite (eg HughesNet)?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	63		21%
No	231		79%
Total Responses: 294 0% 20% 40% 60% 80%			

• **Wireless (eg Cyberpine)?**




(Each Respondent could choose only **ONE** of the following options:)



Would you like to see the following housing options expanded in Sandwich?

• Single family homes




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	205		50%
No	154		37%
Don't know	53		13%

Total Responses: 412 0% 20% 40% 60% 80%

• Conversions of single family homes into apartments




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	108		25%
No	274		64%
Don't know	44		10%

Total Responses: 426 0% 20% 40% 60% 80%

• Addition of another dwelling unit / "guest" house without subdividing the lot.




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	208		49%
No	169		40%
Don't know	50		12%

Total Responses: 427 0% 20% 40% 60% 80%

• Addition of a "mother-in-law" apartment to a single family home.




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	304		71%
No	90		21%
Don't know	37		9%

Total Responses: 431 0% 20% 40% 60% 80%

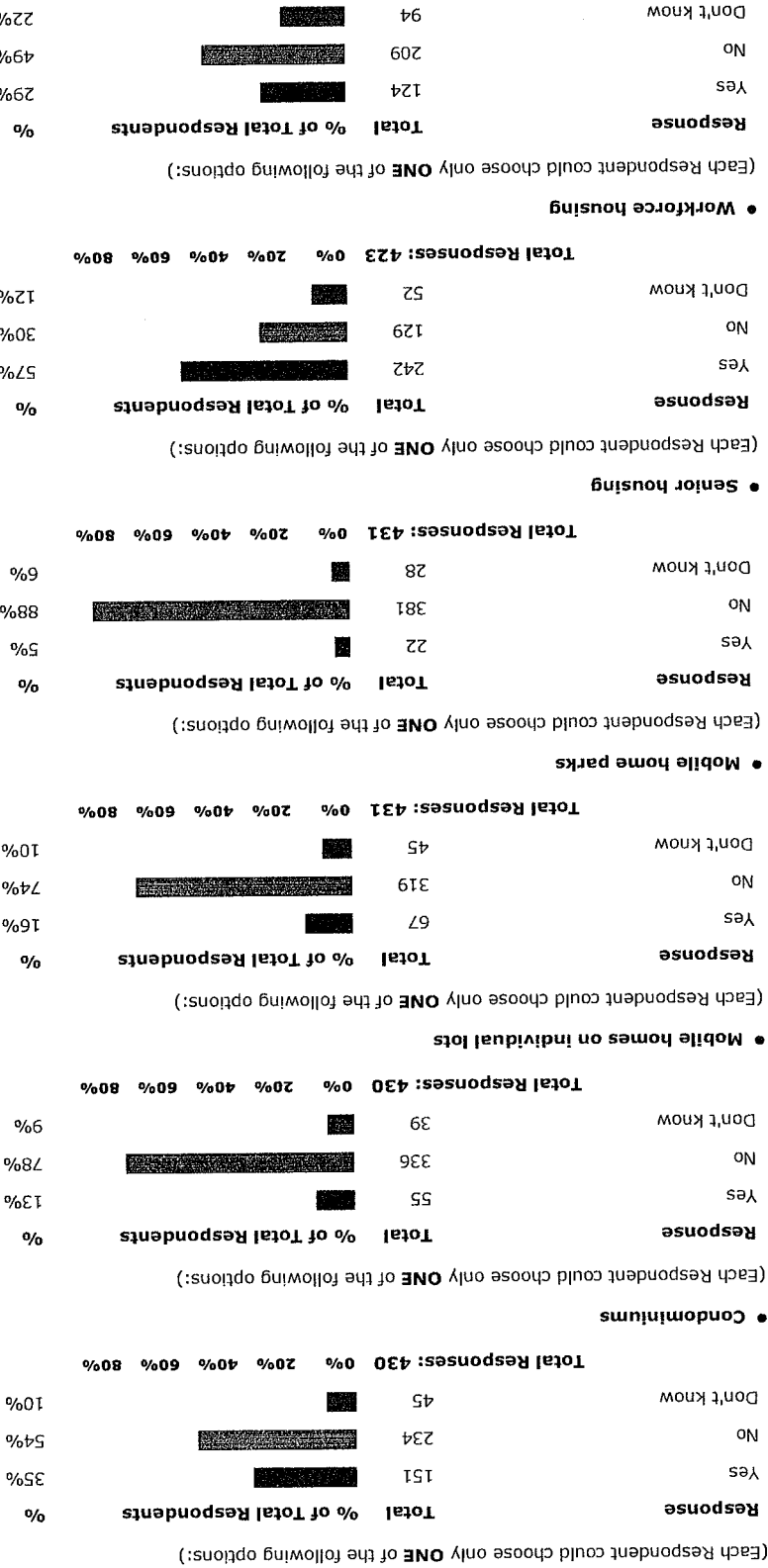
• Multiple unit structures

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	83		19%
No	294		69%
Don't know	50		12%

Total Responses: 427 0% 20% 40% 60% 80%

• Cluster residential developments



Total Responses: 427 0% 20% 40% 60% 80%




Are there other housing options that you would like to see expanded in Sandwich?

[REDACTED]

Do you believe that the following changes to Town roads are needed?

• Roadway widening




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	77		18%
No	321		75%
Don't know	30		7%

Total Responses: 428 0% 20% 40% 60% 80%

• Extensive paving of gravel roads




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	43		10%
No	370		86%
Don't know	19		4%

Total Responses: 432 0% 20% 40% 60% 80%

• Increased rebuilding of existing paved roads




(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	242		57%
No	137		32%
Don't know	46		11%

Total Responses: 425 0% 20% 40% 60% 80%

• Increased rebuilding of gravel road beds



(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	245		58%
No	128		30%
Don't know	50		12%

Total Responses: 423 0% 20% 40% 60% 80%

• Better ditching

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	249		59%
No	109		26%

Don't know 64 15%

Total Responses: 422

• Better road signs, directions & signage

(Each Respondent could choose only ONE of the following options:)

Response Total % of Total Respondents

Yes 82 19%

No 312 74%

Don't know 27 6%

Total Responses: 421

• Reduce speed limit to 30 mph on all Town roads

(Each Respondent could choose only ONE of the following options:)

Response Total % of Total Respondents

Yes 135 31%

No 258 60%

Don't know 37 9%

Total Responses: 430

• More extensive sidewalks in C. Sandwich

(Each Respondent could choose only ONE of the following options:)

Response Total % of Total Respondents

Yes 128 30%

No 264 62%

Don't know 37 9%

Total Responses: 429

• Additional parking facilities in C. Sandwich

(Each Respondent could choose only ONE of the following options:)

Response Total % of Total Respondents

Yes 141 33%

No 262 61%

Don't know 29 7%

Total Responses: 432

• Additional parking facilities, elsewhere in town

(Each Respondent could choose only ONE of the following options:)

Response Total % of Total Respondents

Yes 53 13%




No 303 72%

Don't know 64 15%

Total Responses: 420




• Additional handicapped parking spaces

(Each Respondent could choose only ONE of the following options:)

Response	Total	% of Total Respondents	%
Yes	83		20%
No	253		60%
Don't know	85		20%
Total Responses: 421 0% 20% 40% 60% 80%			




• **Management & maintenance of private roads should be taken over by the town.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	71		16%
No	295		68%
Don't know	67		15%
Total Responses: 433 0% 20% 40% 60% 80%			




• **Increased use of calcium chloride to improve road grading and dust control**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	75		18%
No	208		50%
Don't know	137		33%
Total Responses: 420 0% 20% 40% 60% 80%			




• **Additional street lights for safety**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	43		10%
No	340		80%
Don't know	44		10%
Total Responses: 427 0% 20% 40% 60% 80%			




• **Fewer street lights to conserve energy**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	190		45%
No	159		38%
Don't know	71		17%
Total Responses: 420 0% 20% 40% 60% 80%			

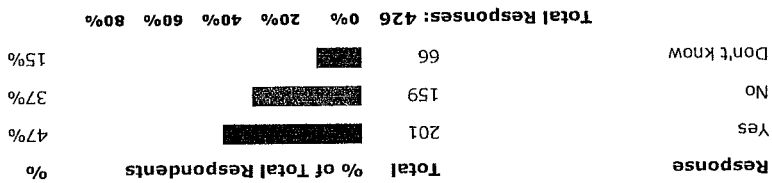
• **Bicycle paths / lanes / trails.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	255		59%
No	143		33%
Don't know	34		8%
Total Responses: 432 0% 20% 40% 60% 80%			

• Off-road trailhead parking

(Each Respondent could choose only ONE of the following options:)

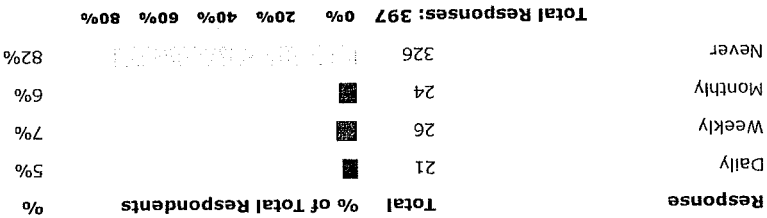


Are there other changes related to town roads and/or parking that you would like to see?

If public transportation was available to the following locations please indicate how frequently you would use it?

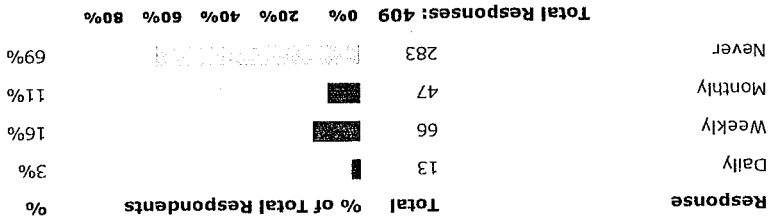
• Within Sandwich

(Each Respondent could choose only ONE of the following options:)



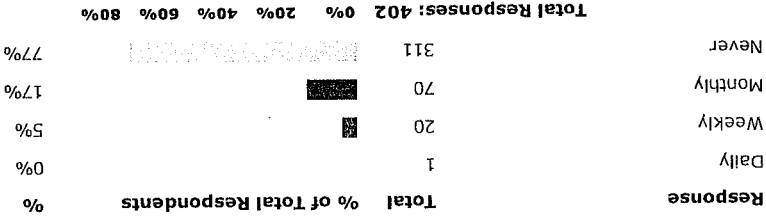
• Moultonboro/Center Harbour / Meredith

(Each Respondent could choose only ONE of the following options:)







• Laconia/Tilton / Franklin

(Each Respondent could choose only ONE of the following options:)






• Concord / Manchester/ Boston

(Each Respondent could choose only ONE of the following options:)

Response	Total	% of Total Respondents	%
Daily	8		2%
Weekly	15		4%
Monthly	140		35%
Never	238		59%
Total Responses: 401 0% 20% 40% 60% 80%			





• **Tamworth / Ossippee**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Daily	0		0%
Weekly	19		5%
Monthly	31		8%
Never	344		87%
Total Responses: 394 0% 20% 40% 60% 80%			





• **Conway**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Daily	4		1%
Weekly	19		5%
Monthly	67		17%
Never	311		78%
Total Responses: 401 0% 20% 40% 60% 80%			



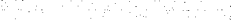
• **Holderness / Ashland / Plymouth**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Daily	7		2%
Weekly	21		5%
Monthly	54		13%
Never	321		80%
Total Responses: 403 0% 20% 40% 60% 80%			

• **Wolfeboro/ Rochester/ Portsmouth**

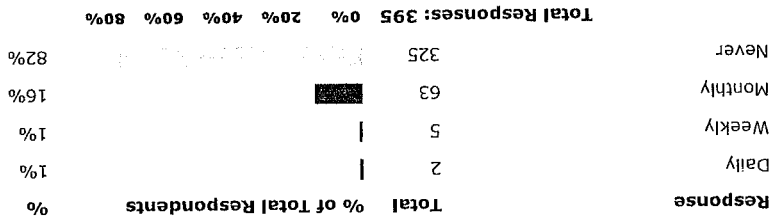
(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Daily	0		0%
Weekly	15		4%
Monthly	64		16%
Never	326		80%
Total Responses: 405 0% 20% 40% 60% 80%			

• **Portland, ME**

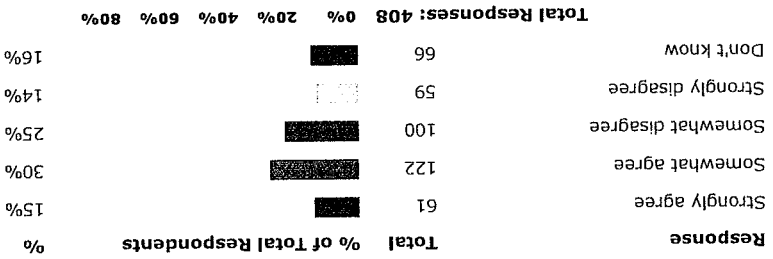
(Each Respondent could choose only **ONE** of the following options:)

To what extent do you agree that there should be more of the following activities in Sandwich?



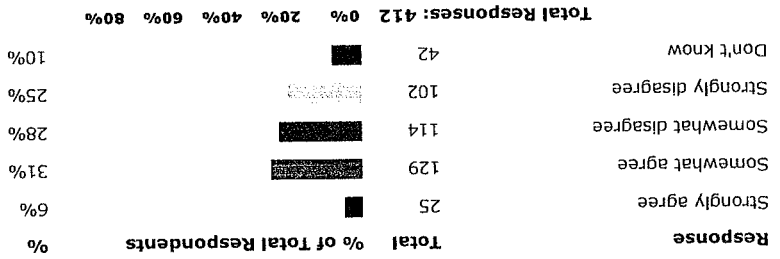
● Logging / forestry

(Each Respondent could choose only ONE of the following options:)



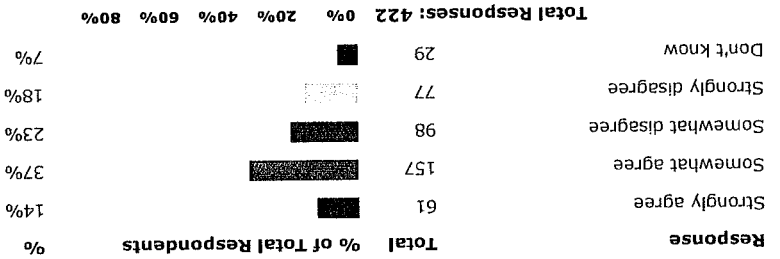
● Building & construction

(Each Respondent could choose only ONE of the following options:)



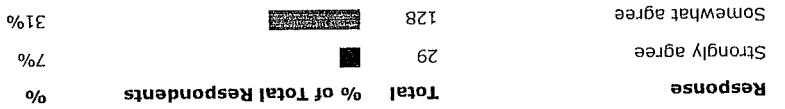
● Tourism

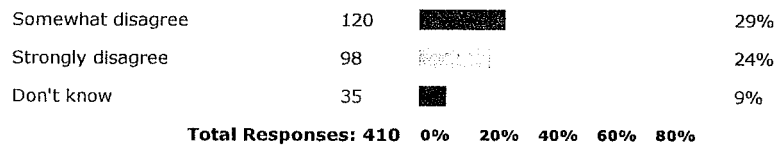
(Each Respondent could choose only ONE of the following options:)



● Gift shops

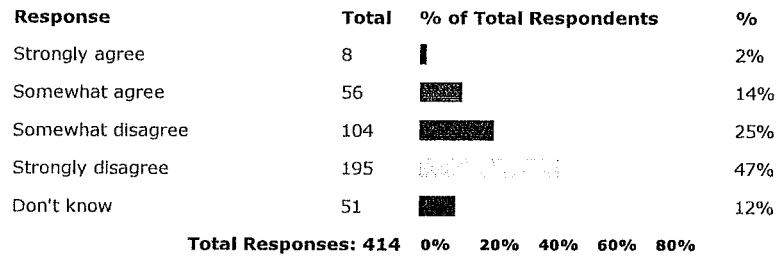
(Each Respondent could choose only ONE of the following options:)





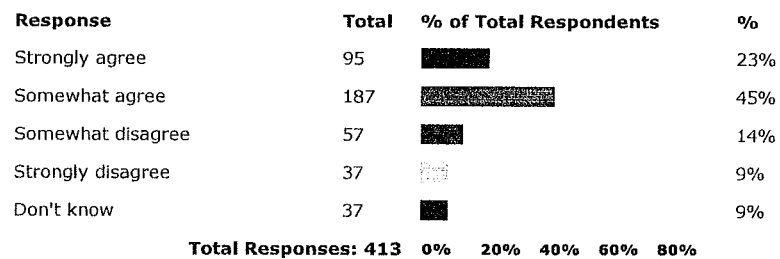
• **County / State / Federal government offices**

(Each Respondent could choose only **ONE** of the following options:)



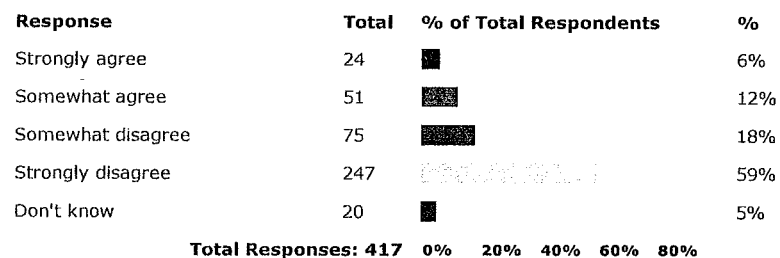
• **Arts & crafts businesses**

(Each Respondent could choose only **ONE** of the following options:)



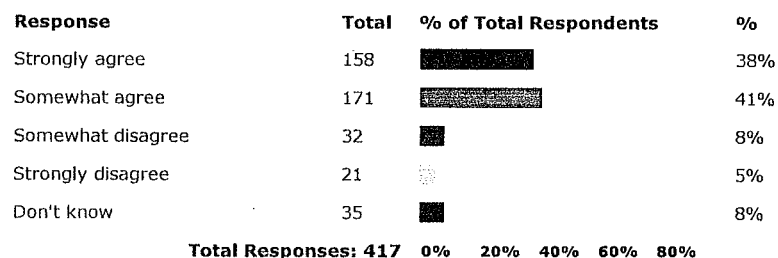
• **Shopping center**

(Each Respondent could choose only **ONE** of the following options:)



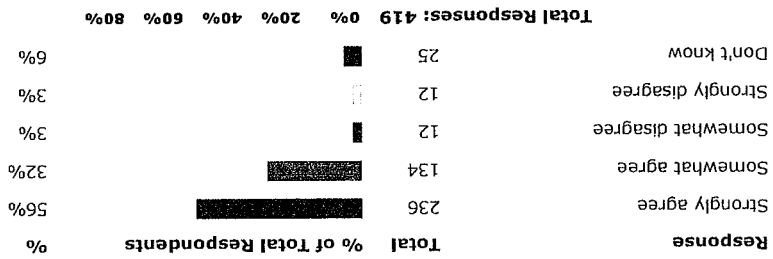
• **Home business**

(Each Respondent could choose only **ONE** of the following options:)



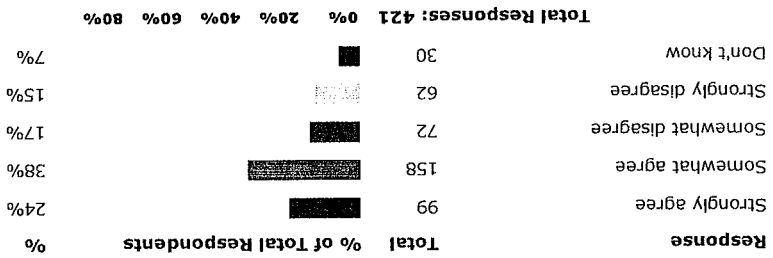
● Agriculture

(Each Respondent could choose only ONE of the following options:)



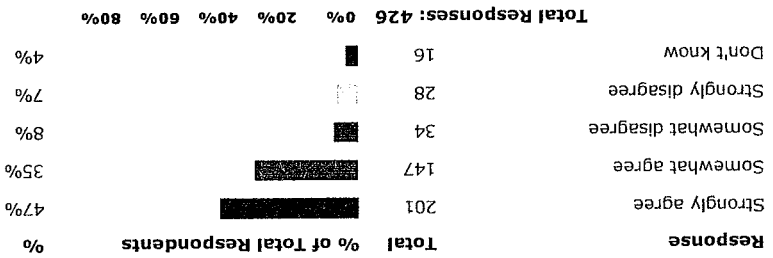
● Professional offices

(Each Respondent could choose only ONE of the following options:)



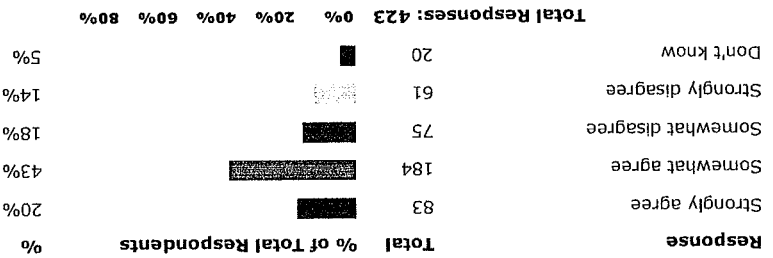
● Health practices (dentist, doctor, nurse)

(Each Respondent could choose only ONE of the following options:)



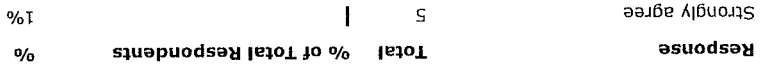
● Restaurants / cafes / coffee shops

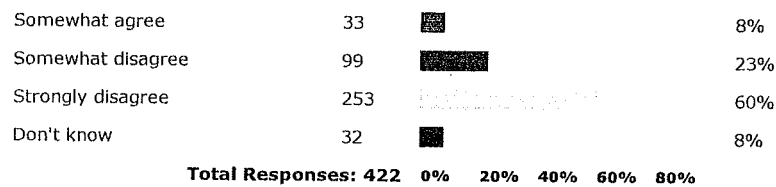
(Each Respondent could choose only ONE of the following options:)



● Motels

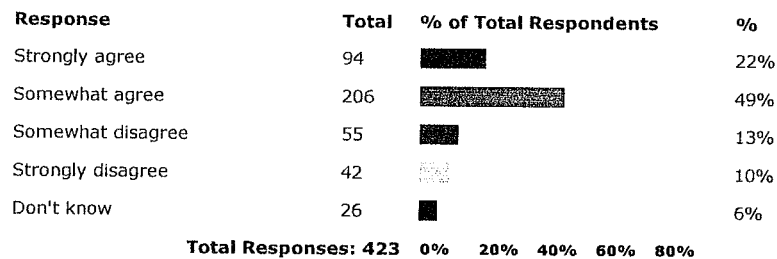
(Each Respondent could choose only ONE of the following options:)





• **B&B's / Inns**

(Each Respondent could choose only **ONE** of the following options:)

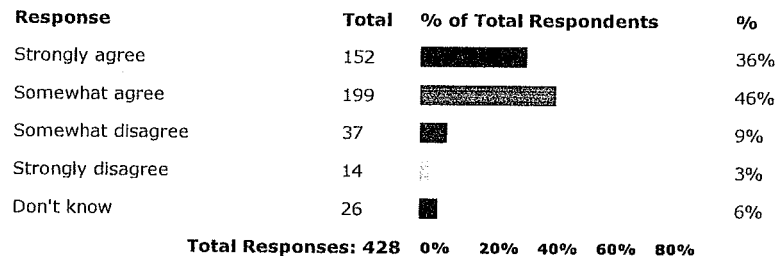


Part 3

Do you agree that Sandwich is doing enough to protect the following?

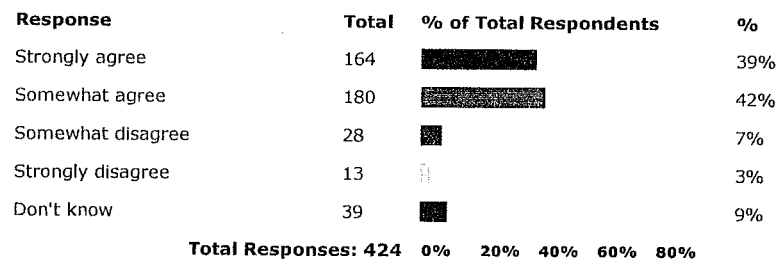
• **The natural beauty of Sandwich**

(Each Respondent could choose only **ONE** of the following options:)



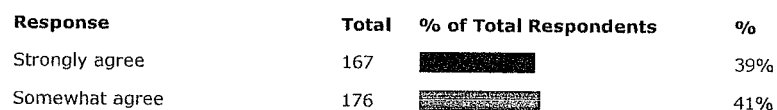
• **Wilderness conservation areas (wildlife refuges, forests)**

(Each Respondent could choose only **ONE** of the following options:)



• **Water bodies (lakes, streams, ponds)**

(Each Respondent could choose only **ONE** of the following options:)



• Wetlands

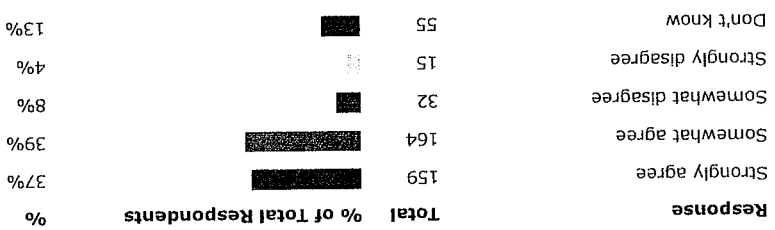
Total Responses: 427



(Each Respondent could choose only ONE of the following options:)

• Watersheds

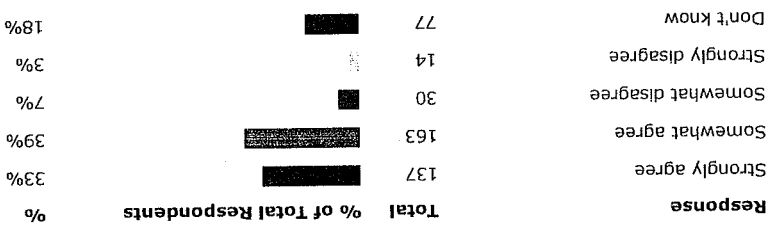
Total Responses: 425



(Each Respondent could choose only ONE of the following options:)

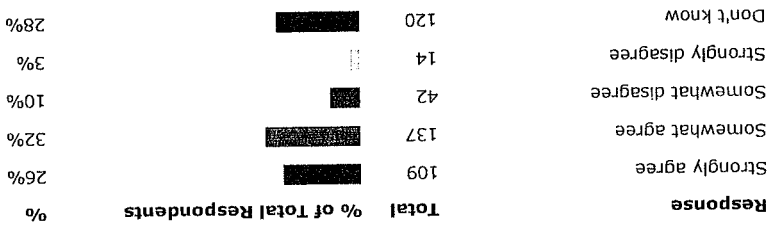
• Aquifer management

Total Responses: 421



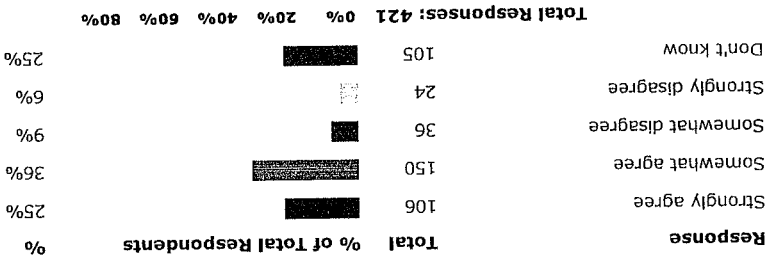
• Steep slopes erosion control

Total Responses: 422



(Each Respondent could choose only ONE of the following options:)






Response



(Each Respondent could choose only ONE of the following options:)






- **Scenic roads**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	143		34%
Somewhat agree	172		40%
Somewhat disagree	36		8%
Strongly disagree	24		6%
Don't know	50		12%
Total Responses: 425 0% 20% 40% 60% 80%			






- **Scenic views**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	132		31%
Somewhat agree	177		42%
Somewhat disagree	35		8%
Strongly disagree	23		5%
Don't know	54		13%
Total Responses: 421 0% 20% 40% 60% 80%			






- **Trail systems**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	121		29%
Somewhat agree	196		46%
Somewhat disagree	25		6%
Strongly disagree	10		2%
Don't know	72		17%
Total Responses: 424 0% 20% 40% 60% 80%			

- **Night skies (from light pollution)**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	106		25%
Somewhat agree	136		32%
Somewhat disagree	60		14%
Strongly disagree	26		6%
Don't know	94		22%
Total Responses: 422 0% 20% 40% 60% 80%			

Can you think of other areas not mentioned above that should be better protected? Also, please comment how well you feel the town is doing in protecting this area(s).

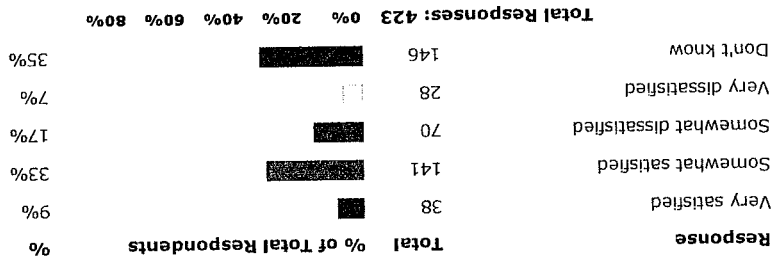


Are there any new educational and recreation programs would you like the town to offer, and for which age group (children, adults, seniors, all).

To what extent are you satisfied with the following?

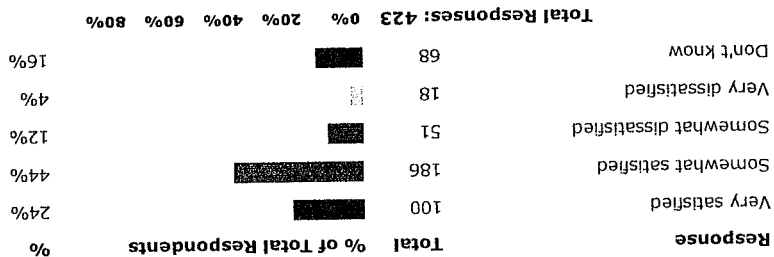
- Progress towards introduction of innovative, alternative and renewable energy sources in town facilities.

(Each Respondent could choose only ONE of the following options:)



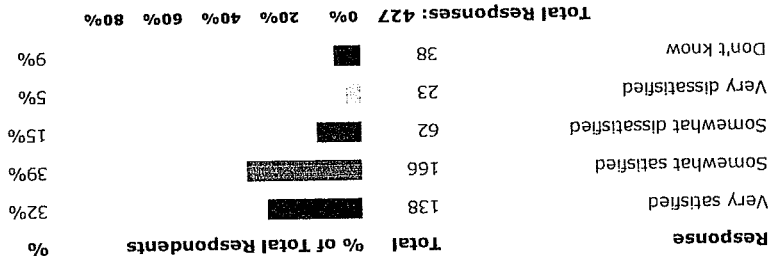
- Existing zoning districts (rural residential, commercial, shoreline, skyline, historic).

(Each Respondent could choose only ONE of the following options:)



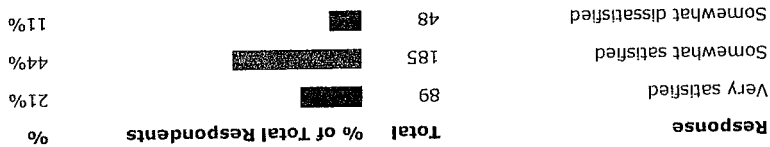
- Residential development density (currently 2.2 acres minimum lot size)



(Each Respondent could choose only ONE of the following options:)



- The preservation of agricultural lands.






(Each Respondent could choose only ONE of the following options:)



Very dissatisfied	16		4%
Don't know	84		20%
Total Responses: 422 0% 20% 40% 60% 80%			






• **The preservation of historical buildings & the Town's heritage.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very satisfied	173		41%
Somewhat satisfied	171		40%
Somewhat dissatisfied	34		8%
Very dissatisfied	10		2%
Don't know	37		9%
Total Responses: 425 0% 20% 40% 60% 80%			






• **The consumption of natural resources e.g forests, gravel, by commercial operations.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very satisfied	64		15%
Somewhat satisfied	156		37%
Somewhat dissatisfied	69		16%
Very dissatisfied	16		4%
Don't know	117		28%
Total Responses: 422 0% 20% 40% 60% 80%			






• **Skyline Districts, which prohibit development above certain elevations.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very satisfied	125		30%
Somewhat satisfied	133		32%
Somewhat dissatisfied	40		9%
Very dissatisfied	14		3%
Don't know	110		26%
Total Responses: 422 0% 20% 40% 60% 80%			

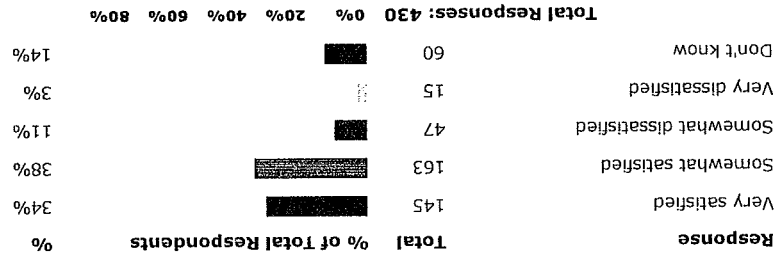
• **Lakeshore residential development.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Very satisfied	113		26%
Somewhat satisfied	146		34%
Somewhat dissatisfied	62		15%
Very dissatisfied	16		4%
Don't know	90		21%
Total Responses: 427 0% 20% 40% 60% 80%			

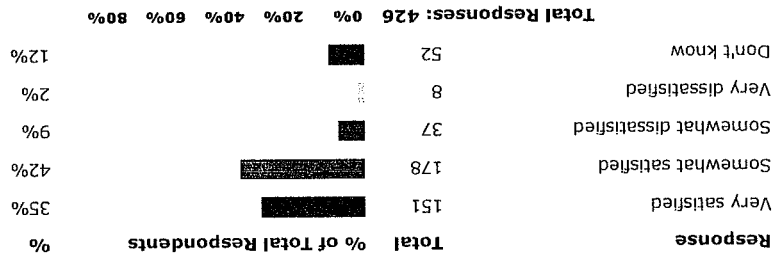
• **Protection of water bodies through setback guidelines.**

(Each Respondent could choose only **ONE** of the following options:)



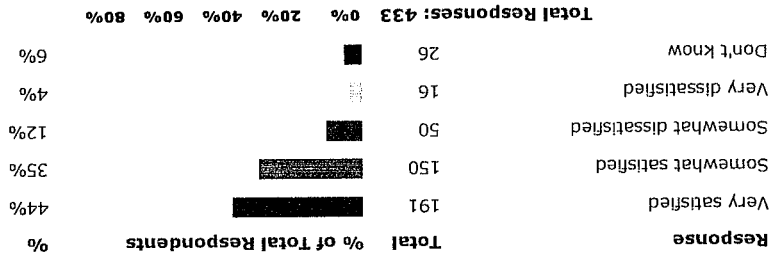
• **Public parks**

(Each Respondent could choose only **ONE** of the following options:)



• **The adequacy of access points and beaches on our lakes / ponds**

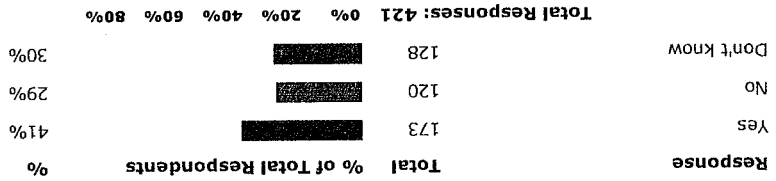
(Each Respondent could choose only **ONE** of the following options:)



Please provide your views on the following issues related to historic districts.

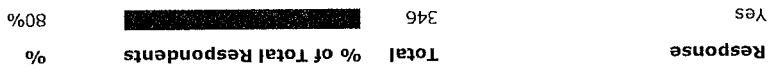
• **Are you satisfied with the Historic District codes and regulations?**



(Each Respondent could choose only **ONE** of the following options:)



• **Should the Historic District permit modern building methods and materials while preserving the visual appearance of buildings?**




(Each Respondent could choose only **ONE** of the following options:)



No	49		11%
Don't know	35		8%
Total Responses: 430 0% 20% 40% 60% 80%			




• **Would you favor more businesses in the Historic District if they were consistent with the Historic District provisions?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	308		71%
No	79		18%
Don't know	44		10%
Total Responses: 431 0% 20% 40% 60% 80%			




• **Are you in favor of expanding the existing Historic District?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	104		24%
No	230		53%
Don't know	96		22%
Total Responses: 430 0% 20% 40% 60% 80%			




• **Are you in favor of expanding the sewer system within the Historic District?**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Yes	139		33%
No	141		33%
Don't know	145		34%
Total Responses: 425 0% 20% 40% 60% 80%			

• **Are you in favor of creating additional historic districts or heritage districts?**




(Each Respondent could choose only **ONE** of the following options:)

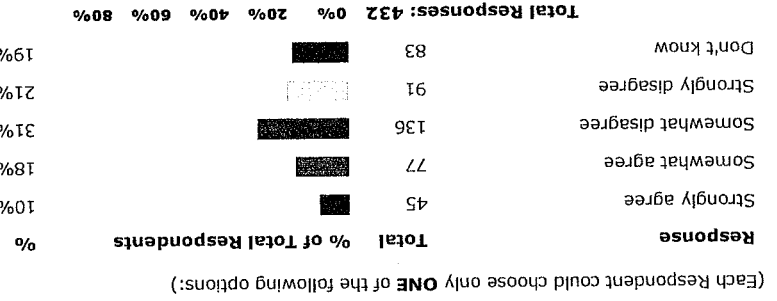
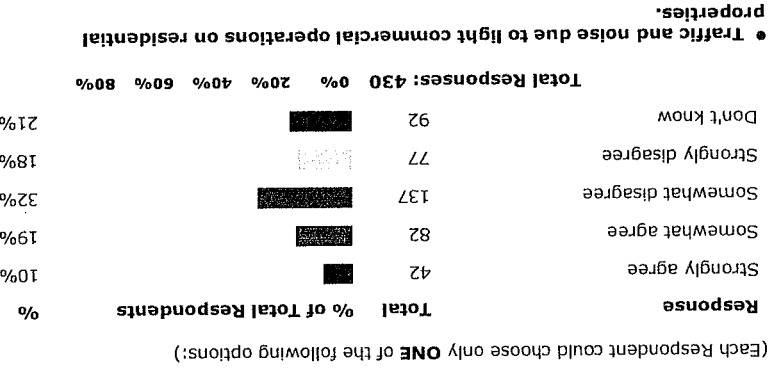
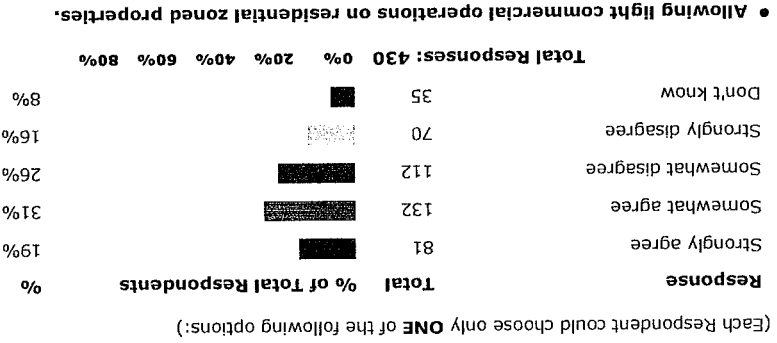
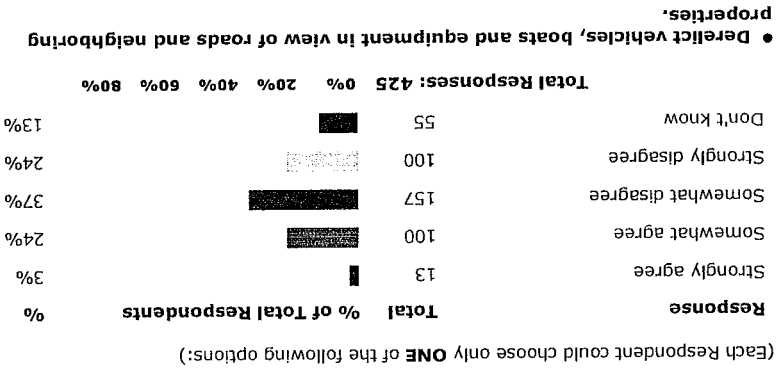
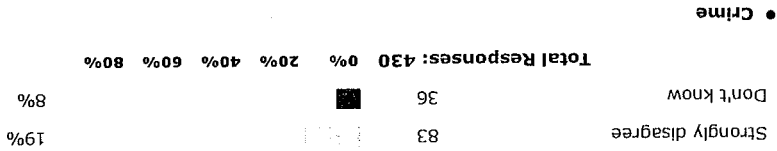
Response	Total	% of Total Respondents	%
Yes	129		30%
No	201		47%
Don't know	102		24%
Total Responses: 432 0% 20% 40% 60% 80%			

To what extent do you agree that the following are problems in Sandwich?

• **Litter**






(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	44		10%
Somewhat agree	123		29%
Somewhat disagree	144		33%



• **Property value reduction due to light commercial operations on adjacent properties.**

(Each Respondent could choose only **ONE** of the following options:)

Response	Total	% of Total Respondents	%
Strongly agree	47		11%
Somewhat agree	75		18%
Somewhat disagree	104		24%
Strongly disagree	82		19%
Don't know	120		28%
Total Responses: 428 0% 20% 40% 60% 80%			

Part 4

Can you think of other problems facing Sandwich that were not identified above?



What do you consider the most desirable aspects of living in Sandwich?



What aspects of living in Sandwich concern you most?



Briefly describe your vision of Sandwich 20 years from now.








Please make additional constructive suggestions for the future development of Sandwich.



Please check 2 (only two) of the following goals that you consider most important to the future development of Sandwich.

(Each Respondent could choose **ANY** of the following options:)

Response	Total	% of Total Respondents	%
Maintaining quality municipal facilities and services.	55		13%
Protecting our natural resources and environment.	240		56%
Maintaining our rural, small town character.	329		77%
Encouraging new businesses / employment opportunities.	84		20%
Keeping town taxes to a minimum.	145		34%

[View report](#)

<http://is4.instantsurvey.com/Report/ViewReport.jsp?SurveyId=70372&i...>

Total Responses: 429 0% 20% 40% 60% 80%

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Question 6: Make brief, constructive suggestions for improvement of facilities & services in Sandwich

	Respondents	%Respondents
Very few Improvements needed/ Do only whats needed	23	24%
Improve Current Facilities/ No expansion	12	13%
Rec. Director, Programs, Grounds	10	11%
High Speed Internet	9	10%
Need Town Manager/ 5 Person Select board	8	9%
Combine Town Buildings- Police, Fire, Town Hall etc	8	9%
Improve Transfer Station (Road and Facilities)	5	5%
Improve Roads/ Beach and Pothole Parking/ Boat Launch etc.	5	5%
All town records online	4	4%
General store	4	4%
Improve Fire Dept./ full time dept	3	3%
Lifeguards on Weekends	2	2%
Increase Police enforcement of traffic/ parking violations	1	1%
Total	94	100.00%

Question 10: Identify any other means of communication that you use in the community or that are available for others to use.

	Respondents	% Respondents
Word of Mouth	42	40%
Improve Town Website- Email newsletters/ postings etc	18	17%
Notices Posted at Library, Town hall, Stores etc	17	16%
Cell Phones (Towers Needed)	8	8%
Internet (cable internet being the theme)	8	8%
Town Involvement in Boards/ Committees	8	8%
Attendance at town hall meetings	3	3%
Town Newsletter	2	2%
Total	106	100.00%

Question 12: Are there other housing options that you would like to see expanded in Sandwich

	Respondents	% Respondents
No	50	49%
Better Use of Existing housing/ mother-in-law apartments	15	15%
zoning too strict/ smaller lot sizes	9	9%
workforce housing/ moderate & median income	9	9%
Cluster housing	7	7%
Assisted living/ elderly	6	6%
zoning not strict enough/ larger lot sizes	4	4%
manufactured housing	2	2%
Total	102	100.00%

Question 14: Are there other changes related to town roads and / or parking that you would like to see?

	Respondents	% Respondents
Roads need better maintenance	52	36%
No	29	20%
Speed/ Parking Enforcement needs to increase	18	13%
No new Parking in the Village	16	11%
Increased parking for trailheads, beaches etc.	11	8%
More bike paths/ sidewalks	9	6%
Replace roadside lighting w/ dark sky friendly fixtures	7	5%
Bury power lines/ phone lines	1	1%
Total	143	100.00%

QUESTION 18: CAN YOU THINK OF OTHER AREAS NOT MENTIONED ABOVE THAT SHOULD BE BETTER PROTECTED?

	No. of responses	% of total
Town does good job: 17	17	15
Road issues: better maintenance of roadsides (clear culverts, clear brush to stonewalls, clear utility lines, find balance between preserving scenic roads vs. realistic maintenance needs.): 13	13	12
Agricultural lands: 8	8	7
enforce existing or have more wetland, and conservation easement ordinances: 8	8	7
Enforce ordinances for: use of pesticides near water bodies, unregistered vehicles, junk yards, animal welfare, logging supervision: 8	8	7
Water body conservation: more lake aquifer and watershed protection: 7	7	6
Town is overprotected: 7	7	6
Invasive plant protection/ education for land & water bodies: 5	5	5
Recreational areas (Squam beach & boat launch, Pot Hole, Bearcamp Pond, Beede Falls) –need better maintenance, parking, trails, and resolve abuse of guest passes. 5	5	5
Dark skies is important: 5	5	5
Keep taxes low: 5	5	5
Managing growth strategies by balancing economic viability, tourism, and historic preservation: 5	5	5
Preserving character of old buildings/ cemeteries: 4	4	4
Wildlife habitats need protecting: 4	4	4
Keep lot sizes/ wetland setbacks the same: 4	4	4
Protect Mountains from being built on: 3	3	3
Ordinances need to be less restrictive: 3	3	3

TOTAL 111 100

QUESTION 19: ARE THERE ANY NEW EDUCATIONAL AND RECREATIONAL PROGRAMS YOU WOULD LIKE THE TOWN TO OFFER AND FOR WHICH AGE GROUPS?

	# Responses	% of total
Keep everything just as it is/ doing great job/ private sector offers the rest: 34	34	24
More adult/ senior activities: lecture series, field trips, crafts/arts, physical activities/ Benz Center potlucks : 24	24	17
Teen activities/ young adults/ after school & after work activities: 13	13	9
Community garden/ instructional classes in forestry/ agriculture conservation : 9	9	6
Indoor year round swimming pool: 7	7	5
Strengthen/ expand role & resources of Library: 6	6	4
Summer day camp/ get kids outdoors : 6	6	4
Less emphasis on TENNIS: 6	6	4
Walking / Biking trails/ no trace camping & hiking skills: 6	6	4
Skate park: 4	4	3
Computer instruction: 4	4	3
Dance / Yoga/ Exercise classes : 4	4	3
All children's programs free: 4	4	3
Support for active and excellent Sandwich Central School: 3	3	2
Home security/ safety classes: 3	3	2
Preschool activities: 3	3	2
Sustainable energy/ living green skills: 3	3	2
Improved ice rink: 2	2	1
TOTAL	141	100

QUESTION 23: CAN YOU THINK OF OTHER PROBLEMS FACING SANDWICH THAT WERE NOT IDENTIFIED ABOVE

	# Responses	% of total
Lack of general store / gas station: 24	24	12
Need for high speed internet/ better TV and cell phone reception: 20	20	10
Tax issues –too high: 19	19	9
Transportation issues: lack of sidewalks, crosswalks, speeding in the village and parking problems: 18	18	9
Newcomers wanting to change town into what they left: 14	14	7
Need for more jobs/ business opportunities: 13	13	6
Squam Beach, Pot Hole, Bearcamp Pond concerns: use by none residents, lack of weekend life guards, misuse of guest passes, parking problems: 10	10	5
Enforcement of existing rules/ laws: 10	10	5
Good Job/ stay as we are: 10	10	5
Need to attract young families: 9	9	4
Balancing affordability, aesthetics and growth/ share facilities and services with other towns: 9	9	4
Noise ordinances for vehicles need to be created and enforced: 7	7	3
Need affordable housing for older & younger people: 7	7	3
Need for professional services –Doctor/ Dentist etc: 6	6	3
Need for more zoning issues/ business district: 6	6	3
Citizens intruding on private land without permission/ trying to control neighbors: 5	5	2
Town owned vehicles: not for personal use / replace only when necessary: 4	4	2
Lack of town people's involvement: 4	4	2
Teen problems: partying in the notch, drugs, drinking: 4	4	2
Too much building: 3	3	1
Planning board conflict of interests concerning regulating ordinances, ie wind generators & solar panels: 2	2	1
TOTAL	204	100

QUESTION 24: WHAT DO YOU CONSIDER THE MOST DESIRABLE ASPECTS OF LIVING IN SANDWICH (Question 24)

	# Responses	% of total
Natural beauty	50	20
Small, rural, quaint New England town.	45	18
Sense of community	35	14
Peaceful (slow pace)	27	11
Recreational activities	13	5
Diversity of residents	12	5
Natural resources	10	4
Off the beaten track	8	3
History	7	3
Preservation of environment / buildings.	6	2
Sandwich Central School	5	2
Volunteerism	4	2
Controlled development	4	2
Low tax	3	1
Architectural beauty	3	1
Arts & Crafts	3	1
Residential feel	2	1
Agriculture	2	1
Library	2	1
Small town government	2	1
Exclusive	1	0
The Fair	1	0
Aged population	1	0
Town forums for meetings	1	0
Good family environment	1	0
Total	248	100

QUESTION 25: WHAT ASPECTS OF LIVING IN SANDWICH CONCERN YOU THE MOST?

	No. of responses	% of total
Too much growth/development /change that threatens the rural character	80	19%
People who want to change Sandwich to be like the town they came from	31	7%
High or increasing taxes	27	7%
Lack of employment/economic opportunities	25	6%
Lack of affordable housing	22	5%
Lack of store in Center	20	5%
Speeding and other traffic control issues	19	5%
Too many elderly persons vs. number of young people	18	4%
Town government: structure/process/enforcement	17	4%
Potential loss of Sandwich Central School	14	3%
Lack of commercial services in town	14	3%
"Us vs. them" divide	13	3%
Fear of change/resistance to change	12	3%
Lack of nearby medical care	12	3%
Poor roads	10	2%
Over regulation by the town	10	2%
Lack of high-speed internet	9	2%
Seniors unable to stay in their homes	6	1%
Deterioration of infrastructure	5	1%
Other miscellaneous	50	12%
Total	414	100%

QUESTION 26: BRIEFLY DESCRIBE YOUR VIEW OF SANDWICH 20 YEARS FROM NOW

	No. of responses	% of total
Rural, quiet, much like today	209	38%
More (small) businesses, vibrant downtown	38	7%
Protection/preservation of open land, forests, wildlife, natural resources	30	5%
Slow, reasonable growth	24	4%
Emphasis on sustainability/energy efficiency	23	4%
Diverse population: incomes, backgrounds, political views	23	4%
More economic/employment opportunities	22	4%
More affordable housing	21	4%
Up-to-date technology: high-speed internet, cable TV	18	3%
More agriculture	18	3%
Successful general store in Center	16	3%
Thriving school	13	2%
Caring, cooperative, civically involved, volunteering community	12	2%
Efficient Town government, possible town manager	12	2%
More young people	9	2%
Better roads	9	2%
Fear becoming a wealthy enclave	8	1%
Better housing/services for seniors	7	1%
Better public transportation	6	1%
Fear becoming over-developed	6	1%
More cluster housing/apartments	6	1%
Lower/affordable taxes	6	1%
Productive forest land	4	1%
Miscellaneous	14	3%
Total	554	100%

QUESTION 27: PLEASE MAKE ADDITIONAL CONSTRUCTIVE SUGGESTIONS FOR THE FUTURE DEVELOPMENT OF SANDWICH

	# Responses	% of total
Limit development to a reasonable pace to protect & remain in balance with the natural environment.	14	8
No new development in town; focus simply on maintaining what we already have.	14	8
Encourage and assist town management to look ahead and be more innovative. Modernise.	11	6
Preserve our character, including natural resources, buildings and the diversity of our people.	11	6
Support for Master Plans supported, as necessary, by surveys.	10	6
Facilitate introduction & widespread availability of high speed internet and cable TV.	9	5
Reintroduce "traditional" small businesses e.g. Gas station, C. Sand store.	9	5
Review and modify as necessary zoning ordinances, notably setbacks.	8	4
Encourage clusters, condo's & apartments for the young and old, while ensuring our "traditional feel".	7	4
Encourage economic development.	6	3
Enhance community activities using e.g. Benz Community Center, Library, Church etc.	6	3
Encourage energy efficiency.	5	3
Maintain the Hist. Dist but evolve to align with other town development and do not become "a museum".	5	3
Provide additional "healthy living" and sports facilities.	5	3
Balance sustainable economic development with the natural world.	4	2
Be prepared to spend to achieve quality services & infrastructure to ensure long term attractiveness.	3	2
Encourage taxable commercial development on Route 25.	3	2
Make full use of people's cooperative attitudes.	3	2
Make more / better use of Fairgrounds Assoc. land and buildings.	3	2
Overcome isolationist attitude and cooperate with adjacent towns to provide services.	3	2
Realign the Sandwich Central School with the Moultonboro School District.	3	2
Review and modify as necessary the remit of the Planning Board.	3	2
Total	145	81
Grand Total	180	100

Note : A further list of about 25 diverse topics received only 1 or 2 "hits", accumulating to:

2011 Master Plan Implementation Guide

Town of Sandwich, NH

Plan approval &
most recent
revision: February 17, 2011

Vision Statement

Sandwich Should: (1) Remain a highly desirable place to live and work by retaining its quiet, rural, small-town character through protection of its valuable natural resources, preservation of its cultural and architectural heritage and scenic beauty; (2) Be vibrant and diverse by promoting social, cultural, housing and recreational opportunities for all age groups; (3) Maintain its high quality of community facilities and services in a cost effective manner; and (4) Provide opportunities for employment and small-scale businesses consistent with our rural character.

* Note:

This Implementation Guide provides a summary of each action from the Master Plan. A fuller discussion of each action can be found in the appropriate full Master Plan Chapter under the Action Plan section. The individual chapter Action Plans have precedence.

Goal/ Action	Related Actions	Priority (years)	Lead Responsibility **
Population & Housing Goal			
PH-1			
PH-1.1			
Natural & Scenic Resources Goal			
NR-1			
NR-1.1			
NR-1.2			
NR-1.3			
NR-1.4			
NR-1.5			
NR-1.6			
NR-1.7			
NR-1.8			
NR-1.9			
NR-2			
NR-2.1			

#1. Allow for modest growth of residential development of a size, design and quality compatible with Sandwich's small town, rural character and recognizes Sandwich's evolving demographics.

#2. Provide reasonable opportunity for housing choice so that greater age and income diversity can be achieved.

Provide opportunities for a variety of home ownership and rental housing that will be affordable to a broad range of age and income groups.

Consider amending the zoning ordinance to permit fully independent accessory dwelling units (that include separate kitchen and sanitary facilities) in residential zoning districts.

LU 2.1 to 2.5

#3. Protect historic resources, natural environment, scenic beauty, open space, clean water and wildlife through well-managed growth and careful planning.

Protect our water resources including: surface waters watersheds, shorelines, wetlands, floodplains, and aquifers.

Update the Prime Wetlands designations and documentation including mapping for each Prime Wetland.

Consider more stringent requirements for activities adjacent to Prime Wetlands such as expanded setbacks.

Consider separating the shoreland aspects of Wetland Protection and placing them into a separate, but compatible, local Shoreland Protection Overlay District that would focus particularly on lower order streams not covered by the state Comprehensive Shoreland Protection Act (CSPA).

Consider adoption of specific, more restrictive shoreland and watershed protection measures within the Beebe River Watershed and portions of the Ossipee River and Winnepesaukee River watersheds.

LU 2.5

Amend the Subdivision and Site Plan Review Regulations to incorporate stormwater management standards that require best management practices for Low Impact Development and minimize the amount of impervious surfaces for any land use activity that disturbs more than 20,000 sf of land.

Consider amending current Floodplain Management Section of the Zoning Ordinance or adopting a revised Flood Hazard Overlay District.

Ensure compliance with state and town regulations involving water resource protection, particularly with respect to wetlands and shorelands.

Consider the development of a town-wide Water Resource Inventory and Management Plan consistent with NH RSA 4-C: 22.

Adopt an Aquifer/Groundwater Protection Ordinance to protect the quality of the water in Sandwich's stratified drift aquifers.

Preserve Sandwich's surface water resources by meeting state water quality standards.

Establish a testing program for septic systems by town personnel within the Shoreland Residential District, to assure proper function with no measurable 'leakage' into nearby town waters.

Note: Implementation priority and responsibilities to be determined through discussion between the Planning Board and other town committees.

NR-2.2	Continue monitoring water quality, such as through the water quality sampling efforts of the Green Mountain Conservation Group on the Cold River and Pond Brook and the Squam Lake Association through the UNH-LLMP on Squam Lake.		
NR-2.3	Establish water monitoring programs in all watersheds and major rivers and ponds in town through NHDES VRAP and/or VLAP programs or UNH-LLMP sampling programs to complete the set of significant ponds and bays within Sandwich's boundaries under this program.		
NR-3	Protect valuable natural resource features and communities including high value wildlife habitat. (See related Objective and Actions)		
NR-3.1	Develop a town-wide open space plan that identifies and maps high value natural resource areas throughout Sandwich and recommends priority areas for protection.	NR 1.1; VC 1.4	
NR-3.2	Amend the Subdivision and Site Plan Review Regulations to require an applicant to undertake the following options at the Planning Board's discretion: (a) An environmental impact statement and recommendations for mitigation. (b) A wildlife habitat study and recommendations for mitigating impacts.		
NR-4	Encourage educational and outreach programs related to the protection and long-term stewardship of Sandwich's natural resources.		
NR-4.1	Coordinate efforts of town and private organizations to inform and educate townspeople regarding land use, conservation and natural resource issues.		
SQ-1	Maintain and protect the quality of Sandwich's scenic environment.		
SQ-1.1	Undertake a Visual Resource Analysis based on a systematic approach to identifying and prioritizing visual resources.		
SQ-1.2	Amend the Zoning Ordinance such as through additions to the Skyline District or Steep Slope Protection to provide for greater protection of scenic quality from the impact of development.		
SQ-1.3	Adopt provisions within the Subdivision and Site Plan Review Regulations to allow the Planning Board to require location of such utilities as electrical, telephone and cable underground for large multi-lot subdivisions.		
Natural Resource Conservation Goal	#4. Support and encourage protection and management of high value conservation and open space lands that are linked by trails and/or wildlife and natural resource corridors.		
NRC-1.1	Identify areas of high ecological and conservation value to establish conservation/land protection priorities.	NR 3.1	
NRC-1.2	Coordinate current, and create additional, non-motorized trail networks by connecting trails, pathways and sidewalks and Class VI roads.	T 2.3; HR 3.1	
NRC-1.3	Forecast potential land acquisition/conservation expenditures and consider directing more than the current 25% of Land Use Change Tax (LUCT) to the town Conservation Fund.		
Land Use Goal	#1. Allow for modest growth of residential development of a size, design and quality compatible with Sandwich's small town, rural character and recognizes Sandwich's evolving demographics.		
LU-1	Implement a digital information system that will link both spatial and factual community information into an integrated data base.		
LU-1.1	Create a digital graphic tax map system that can be linked to the assessor's property data base.		
LU-1.2	Consider implementing a Geographic Information System that will incorporate and coordinate all community land related data, both numerical and spatial, into a common system.		
LU-2	Implement Land Use Regulations that enable growth to be managed in a manner that will maintain Sandwich's rural and village character.		
LU-2.1	Amend the Cluster Provision in the Zoning Ordinance to ensure that the quality of the development is consistent with the town's rural character.		
LU-2.2	Amend the Subdivision Regulations to minimize the overlap of dimensional and site/design standards between Subdivision Regulations and the Zoning Ordinance.		
LU-2.3	Amend the Subdivision Regulations for steep slopes and relocate to the Zoning Ordinance, including clarification of the amount of 15% slope that is needed to increase the minimum lot size.		
LU-2.4	Adopt an approach to minimum lot size that defines a building area free of environmental constraints (such as 15% slopes) so long as the remainder of the lot is not disturbed.		
LU-2.5	Review Subdivision and Site Plan Review Regulations to be sure that they reflect the need to protect rural character and that any development under these provisions minimize environmental impact.	NR 1.4	

LU-3 <i>Preserve and protect Sandwich's valuable forest and agricultural resource base by maintaining and enhancing existing unfragmented lands and active farming and forestry activities.</i>				
LU-3.1	Review local Zoning, Subdivision and Site Plan Review Regulations to ensure that the full range of agricultural activities are permitted including subsidiary uses.	EB 3.1		
LU-3.2	Establish forest management plans for all town forests.	EB 3.1		
Historic Resources <i>#3. Protect historic resources, natural environment, scenic beauty, open space, clean water, and wildlife through well-managed growth and careful planning.</i>				
Goals <i>#5. Preserve the town's rural, small town character and the traditional New England style of its villages.</i> <i>Protect and preserve Sandwich's physical and structural historic and cultural resources.</i>				
HR-1.1	Consider establishing a Heritage Commission under the provisions of RSA 674:44 that can advise the Planning Board or other community boards relative the value of the town's heritage (historical, archaeological, and cultural) resources.			
HR-1.2	Prepare a comprehensive historic resources inventory—both written and photographic—of all historic sites and buildings in Sandwich based upon information collected and published for the Heritage Walks and other relevant documents.			
HR-1.3	Consider conducting a comprehensive historic landscape survey of Sandwich, including its villages and rural landscapes, based on the guidance document <i>General Guidelines for Identifying and Evaluating Historic Landscapes</i> .			
HR-1.4	Apply to become a Certified Local Government (CLG) through the NH Division of Historic Resources to allow Sandwich greater opportunity to identify, evaluate, and protect local properties of historic, architectural and archaeological significance.			
HR-2	<i>Preserve and enhance the scenic and historic quality of Sandwich's rural landscape and roadways.</i>			
HR-2.1	Manage the gateways into town, such as Squam Lakes Road, Skinner Street, Maple Street and Wentworth Hill Road to protect their historic character and ensure that new development is consistent with this character.	T 3.3		
HR-2.2	Work with the New Hampshire Division of Historic Resources and the Department of Transportation to manage location of road signs to avoid interference with the view of historic resources from public roads, and, where appropriate, to place historical markers to heighten awareness of historic resources.			
HR-3	<i>Maintain historic educational programs that enhance citizen awareness of Sandwich's unique history and the numerous surviving artifacts of its history and culture.</i>			
HR-3.1	Establish permanent heritage walking trails in Center Sandwich and Lower Corner that would include a map and permanent markers for specific historic properties.	VC 3.1, NRC 1.2		
Village Center Goal <i>#5. Preserve the town's rural, small town character and the traditional New England style of its villages.</i>				
VC-1	<i>Maintain the ambiance and character of the existing village centers – Center Sandwich and North Sandwich.</i>			
VC-1.1	Maintain a mix of residential, commercial and civic service properties and uses in the Historic District that is consistent with natural and historic resource preservation and respects the wishes of both the neighborhood and wider community.	EB 1.1		
VC-1.2	Review current zoning regulations to determine whether the villages should continue to be subject, in the main, to the same requirements as the Rural/Residential District.	EB 1.1		
VC-1.3	Explore creating a Center Sandwich District and North Sandwich District with boundaries that would encompass the existing villages and include some space for incremental new growth around both.	EB 1.1		
VC-1.4	Identify key open spaces and vistas that need to be protected and consider acquisition, easements or other alternatives to permanently protect these visual resources.	NR 3.1		
VC-1.5	Encourage a program of town beautification, including but not limited to planting and preservation of trees, shrubs and flowers.			
VC-2	<i>Review design standards for the Historic District and, if created, adopt design standards for the portion of the Center Sandwich District outside of the Historic District and North Sandwich District that are consistent with the traditional New England village.</i>			

VC2.1	Retain the current design guidelines for buildings in the Historic District, incorporating sustainability and energy efficiency initiatives wherever they do not detract from the visual harmony of the District.		
VC-2.2	If zoning districts are created for North and Center Sandwich, develop design standards for additions, renovations and new construction outside the Historic District, that are compatible with existing historic building shapes, scale and character.		
VC-2.3	Provide additional tools, including demolition review, for the HDC to preserve architectural features, including buildings and open spaces, in the Historic District.		
VC-3	Provide infrastructure to support future needs within the villages.		
VC-3.1	Provide appropriate opportunities for safe pedestrian and bicycle circulation within the village, including, if created, the Center Sandwich and North Sandwich Districts.	T 2.2	
VC-3.2	Develop a long range plan for parking in the villages, including, if created, the Center Sandwich and North Sandwich Districts -- one that minimizes visual impacts and emphasizes sharing existing resources to avoid paving new areas.		
Economic Base Goals	#6. Provide opportunity for limited village business activity (e.g., general store/professional offices) that is consistent with the architectural qualities that the town values.		
EB-1	#7. Encourage home occupations that are compatible with and supportive of the town's rural character.		
EB-1.1	Promote a limited mix of residential, retail and office uses that are compatible with the existing visual character of the village and rural character of the town.	VC 1.1-1.3	
EB-1.2	Review provisions for a mix of residential uses and limited opportunities for small business activities in Center and North Sandwich.		
EB-2	Review and amend, as appropriate, the remainder of the zoning ordinance to be sure that non-residential development in the community continues to be consistent with the town's Vision.		
EB-2.1	Encourage home occupations that are compatible with the rural character of Sandwich without infringing on neighbors ability to achieve quiet enjoyment of their property.		
EB-3	Amend the Zoning Ordinance to specify criteria for home occupations so that allowed home occupation uses do not negatively impact abutting properties. The amendments need to respect traditional home occupations already found in Sandwich including arts and crafts and small construction contractors.		
EB-3.1	To preserve the rural character of the town, encourage businesses that are related to maintaining and enhancing the value and sustainability of natural resources.	LU 3.1 to 3.2	
Ensure that agricultural, forestry, and outdoor recreation enterprises are promoted and encouraged through the town's development regulations.			
#8. Provide a balanced transportation system with well-maintained public roadways lined with stone walls, open fields and trees; and encourage opportunities and facilities for pedestrians, bicyclists and recreational users.			
T-1	Maintain and, where appropriate, improve the current roadway system to provide efficient traffic flow along the major roadway corridors while maintaining a safe environment for pedestrians.		
T-1.1	Consider adding an additional 2 feet of pavement to the edge of current pavement delineated with an edge of travel lane stripe on existing roadways when undertaking repaving or reconstruction.		
T-1.2	Consider requiring a traffic impact analysis in the subdivision and site plan regulations for any development that exceeds a threshold of 50 vehicle trips in any one hour.		
T-2	Encourage, develop and maintain a range of non-automotive transportation alternatives that are easily available to the residents of Sandwich.		
T-2.1	Work cooperatively with the NHDOT to assure that any state bridges that are rebuilt or reconstructed provide adequate space for sidewalks and/or bicycle lanes.		
T-2.2	Develop a long-range plan for sidewalks in Center Sandwich with first priority given to a Maple Street link from Church Street to Main Street.	VC 3.1	
T-2.3	Using the existing local trail system as a starting point, work toward system of bicycle routes and multi-use trails/paths for the enjoyment of Sandwich citizens and visitors that is coordinated with state and regional trail systems.	NRC 1.2; HR 3.2	
T-2.4	In cooperation with NHDOT, properly mark and sign the state designated bike routes, including Routes 113 and 109.		

T-3	Promote transportation policies and improvements that are consistent with the town's policies for protection of natural and historic resources and minimize the impact on residential neighborhoods.				
T-3.1	Review and, as appropriate, update the current roadway design standards to ensure that there is minimal impacts to the town's streams and brooks as well as to ensure impacts from drainage do not degrade stream and pond water quality.				
T-3.2	Update Site Plan Review standards to ensure that commercial development provides appropriate levels of landscaping and pedestrian walkways.				
T-3.3	Review the town's policy with respect to Scenic Roads and determine if all roads should be considered scenic.				HR 2.1
T-4	Participate in the coordination of state and local transportation planning that addresses both local and regional needs.				
T-4.1	Participate in the Lakes Region Planning Commission (LRPC) planning process for regional transportation planning. Advocate for the Town's interests through staff communications as well through participation in both the Technical Review Committee and Policy Committee of the LRPC.				
Energy Goal	#9. Encourage a sustainable community, one that meets our present needs without compromising the ability of future generations to meet their needs.				
E-1	Undertake Energy Efficiency Improvements in all areas of town government, including buildings, vehicles and operations.				
E-1.1	Continue to follow-up on the Municipal Energy Assistance Program (MEAP) baseline report by undertaking detailed energy audits on existing town buildings, evaluating life cycle costing of energy related improvements and implementing those that provide a reasonable return on the investment, including consideration for increasing energy costs, availability and greenhouse gas emissions.				
E-1.2	Establish a town vehicle procurement policy that carefully considers the intended use of the vehicle, its durability, vehicle size, energy efficiency and life-cycle capital and operating costs.				
E-1.3	Implement a fuel use tracking structure for every town vehicle so that fuel consumption, mileage and use can be monitored to help inform decisions about eventual replacement.				
E-1.4	Consider replacing existing town street lights with LED light fixtures and study the feasibility of a phased reduction in the number of streetlights.				
E-1.5	Evaluate life-cycle costs, including possible energy improvements, at the time other municipal building improvements and equipment are being pursued.				
Community Facilities & Services Goals	#10. Provide, in a cost effective manner, the quality and level of municipal services and facilities that are enjoyed in Sandwich today. #11. Encourage modern communication facilities, systems and services to meet the needs and diversity of Sandwich's residents and businesses, now and in the years to come. #12. Encourage and foster high levels of citizen volunteerism in both public and non-profit activities to promote social capital and keep the cost of municipal services at a reasonable level.				
CS-1	Police				
CS-1.1	Examine options for the current police facility including renovation, expansion or replacement to provide for ADA accessibility, adequate interview or storage space, including secure storage space for evidence.				
CS-1.2	Upgrade electrical and plumbing systems—may be part of renovation.				
CS-2	Fire and Medical				
CS-2.1	Expand the main fire station to allow for an additional fire truck bay.				
CS-2.2	Undertake repair of main fire station roof and upgrade of electrical system.				
CS-2.3	Develop a long range plan for provision of fire-fighting and medical services, especially in light of anticipated major capital expenditures in the medium term.				
CS-3	Highway/Public Works				
CS-3.1	Upgrade main Highway Department building (shed) including new roof, new generator, vented room for welding operations, and a more secure equipment storage area.				
CS-4	Town Hall				
CS-4.1	Enlarge and modernize current workspaces and meeting room.				

CS-4.2	Add more records storage space.				
CS-4.3	Add second meeting room, along with space for such functions as treasurer, building inspector, sewer, etc.				
CS-4.4	Consider ADA accessibility to the second floor.				
CS-5	Solid Waste				
CS-5.1	Improve traffic flow at the transfer station and repair the access road.				
CS-5.2	In the long term, consider specific ways to better manage the town's solid waste either at the current site or in combination with adjacent towns.				
CS-6	Sewer System				
CS-6.1	Continue to identify and repair areas of sewer system infiltration.				
CS-6.2	Undertake a comprehensive engineering study to determine current functional capacity of the sewer treatment system considering system limitations and provide alternative strategies for system configuration to accommodate future demand.				
CS-7	Library				
CS-7.1	Address ongoing building maintenance needs of the Wentworth Library including energy and lighting improvements, electrical system upgrades, ADA accessibility, reconfiguration of the circulation desk, and safety improvements.				
CS-7.2	Provide the necessary tools to efficiently manage and operate the library for the benefit of its patrons, including upgraded circulation software and acquisition of new digital technology equipment for audio and video users.				
CS-8	School				
CS-8.1	Closely monitor how the school is managed, operated and maintained by the Inter-Lakes School Board.				
CS-8.2	Continue advocacy for the needs of the school in the long term.				
CS-9	Parks and Recreation				
CS-9.1	Improve parking at Squam Lake Beach, the Potholes and Bearcamp Pond.				
CS 10	Communications Infrastructure				
CS 10.1	Work with existing commercial providers and advocate for the provision of state-of-the-art electronic communication services throughout Sandwich.				
	** Lead Responsibility Abbreviations: PB = Planning Board CC= Conservation Commission SB= Select Board SHS = Sandwich Historical Society SC= Sewer Commission WL= Wentworth Library AC=Agricultural Commission HDC=Historic District Commission				